Bennett Jones

Fall 2022 Economic Outlook

Managing Risks and Taking Action

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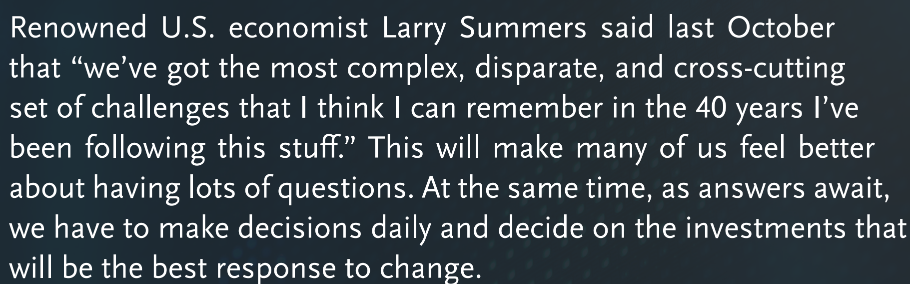

Renowned U.S. economist Larry Summers said last October that "we've got the most complex, disparate, and cross-cutting set of challenges that I think I can remember in the 40 years I've been following this stuff." This will make many of us feel better about having lots of questions. At the same time, as answers await, we have to make decisions daily and decide on the investments that will be the best response to change.

No doubt, the global context is gloomy. And there is much uncertainty and risk. But it is difficult to think of a country that, given its geography, resources, human capital and institutions, is better placed than ours to capture the upside, and to guard against the downside, of a changing world. Perhaps this is why in my interactions with clients and partners, I feel a sense of optimism, a sentiment that if we get our act together—and frankly even if we don't all the time—we can get things done. There is also a widespread view that with appropriate policy changes we can significantly close the yawning gap between our current state and our tremendous upside potential.

In this *Fall 2022 Economic Outlook*, the Bennett Jones Government Affairs and Public Policy group aims to make some sense of a complex world and to identify some assumptions for the U.S. and Canadian economies to assist business planning. They also provide advice to governments and regulators to help bolster confidence and unlock critical private investment. Our team of advisors is available as a resource to clients and partners. We hope you will find this outlook informative for your deliberations.

Hugh MacKinnon
Chairman and CEO, Bennett Jones

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The analysis in this Economic Outlook is based on published data available as of December 2, 2022.

Foreword

The global economy is slowing down as supply constraints, a war, sanctions against Russia and tension in the global trade environment are pushing up prices and interest rates. Uncertainty is pervasive, from the price of commodities to the effects of zero-COVID policy in China.

For the United States and Canada, that also have to cope with excess demand at home, there is a range of plausible scenarios for the next two years. Aside from external factors hard to predict, much depends on the response of wages and prices to the rapid tightening of monetary policy that both central banks begun in the first quarter of 2022.

Our assessment is that wages and prices are likely to respond fairly smoothly to the reductions in domestic demand caused by higher interest rates. Inflationary pressures thus should begin to abate early in 2023, and central banks should be able to halt policy interest rate increases at peak levels of 5.25% in the United States and 4.5% in Canada.

On this basis, our Baseline Scenario projects real output in the two economies to be basically flat in 2023. The United States would undergo a shallow recession in the first three quarters of the year. Canada should perform marginally better, advantaged by resource prices that are expected to remain relatively high, with oil prices in a range of US$70-85.

The two economies would be growing at a rate of about 2% during 2024. In both the United States and Canada, by the end of 2024, inflation should come down to close to the 2% target and the policy interest rate would drop to about 3%.

We think that our Baseline Scenario is a reasonable basis for planning by businesses. But there are risks. Mostly to the downside. For example, if prices are “stickier”, and fail to respond enough to higher interest rates, central banks will need to tighten further and this will precipitate a recession in 2023 that could be pronounced, with knock-on effects, including on the fiscal position of governments.

This is why it is appropriate that central banks continue to affirm their strong intent to tame inflation and that governments complement monetary policy by moderating spending that adds to aggregate demand.

Risks have to be managed by businesses and governments not only day-to-day, but also in planning and executing a response to long-term trends and in capturing the upside of transformational change.

It bears repeating that three structural forces, and global responses thereto, will shape our economy and society now and over the next decades: climate change; innovation, notably digitalization; and demographic change, including ageing.

These forces are playing out in a geopolitical environment that is re-drawing global supply chains and placing a premium on security of supply of critical materials, including energy that Canada has in abundance.

Taking action to address these forces means investing: in physical capital, in innovation and intangible capital and in human capital. And in Canada, such investment must be at levels much

higher than in recent years. We estimate a need for an added flow of public and private non-residential investment of some $80 billion per year.

Businesses and governments have to work together to capitalize on our assets, address gaps, grow our productive capacity and expand our ability to produce the goods and services that the world wants to buy. This requires a policy framework that, in an uncertain environment, supports confidence and incites private investment, while also strengthening global partnerships and market access.

The response to climate change requires investment of historic proportions in an energy transition, including electrification, while renewed attention worldwide to energy security also places Canada in a position to meet needs with reliable, responsible supply. To get things done, we need regulation that allows good projects to get approved and built on an accelerated timeline.

Digitalization is permeating all corners of the economy, from agriculture to health care or finance. Securing all of its benefits, while addressing privacy and security risks requires state-of-the-art infrastructure, sound regulatory and intellectual property frameworks, and government-business collaboration.

With population ageing and a steady stream of retirements come tight labour markets. Skilled immigrants—even as we raise their numbers—will not address all gaps. Businesses will have to raise output per worker faster by investing in productivity-enhancing capital and upgrading the skills of their workforce. Building the workforce for an economy in transformation must also be a priority of governments.

Despite the somewhat pervasive sentiment that the world is deglobalizing, Canada's interest is in greater international trade and investment, not less. While businesses and governments have to assess security of supply risks carefully, especially in the areas of advanced technology and critical materials, we have to aggressively pursue global opportunities wherever they present themselves. This includes our traditional markets like the United States and Europe, but clearly also the Indo-Pacific where intensified efforts are required to attract investors and to capitalize on expected strong demand growth in the next decades.

We hope that this Economic Outlook, written with colleagues Jonathan Fried, Lori Sterling and Richard Dion, and pulling together contributions from other members of our stellar Government Affairs and Public Policy group, will be helpful to clients and to other organization for their planning and risk management. We stand ready to expand on specific matters of interest.

David A. Dodge and **Serge Dupont**

Senior Advisors, Bennett Jones

I. Introduction and Summary:

Cyclical and Structural Forces and the Investment Imperative

The Global Context

In a period of geopolitical tension and elevated uncertainty and risk, the global economy is experiencing a deficiency of supply, resulting in high inflation, rising interest rates and slowing output growth.

Some of the forces that are restricting supply—while longer lasting than expected only months ago—are temporary and they will abate through normal channels of adjustment. For example, some of the rigidities in supply chains have eased and the prices of many commodities have softened.

Other forces, such as exerted by U.S.-China strategic rivalry or by war and security threats in Europe, are game changing. For public and private sectors alike, delineating these two sets of forces and dealing with the present while preparing for the future is a delicate business.

The forces that globally are pushing prices up and slowing growth have different epicenters, and they are felt differentially across regions of the world through what are called spillovers. Europe is bearing the brunt of the war in Ukraine, the weaponization by Russia of energy flows and sanctions against Russia—together these factors are creating an energy crisis that is exacerbating inflation. China is experiencing its lowest growth rates in decades, in part because of its zero-COVID policy, weak consumption growth and sharp curtailment of investment in the real property sector. Given China's size, this is disrupting both supply and demand for global trading partners. In the United States, excess demand is forcing the Federal Reserve to raise interest rates at a pace that also results in a higher U.S. dollar. The stronger dollar is worsening the predicament of highly-indebted economies—including emerging and developing countries—that are importers of energy and other commodities. This is raising the risks of a debt crisis and global financial unrest. Indeed, adjustment to higher interest rates also poses risks of financial disruption in advanced economies.

The erosion of a global policy consensus and a lack of cooperation are complicating the task of individual countries in managing external sources of uncertainty and risk. The G20 Leaders Summit held November 17-18, 2022, in Bali, Indonesia, produced a common declaration and it enabled bilateral discussions, notably between United States and Chinese leadership, that appear to have improved the tone of the dialogue and enhanced the space for cooperation on global issues. Still, the geopolitical climate is charged and multilateral institutions are weaker than in prior decades. A deeply fractured domestic political environment is also impeding traditional U.S. leadership.

This global backdrop is reviewed in greater detail in Chapter II.

Recent Developments in Canada

Canada is exposed to these spillovers and inflationary forces are working their way through the economy. In addition to global factors, the pressure of demand on productive capacity is contributing to high domestic inflation. To dampen excess demand, the Bank of Canada in February of this year began raising its policy interest rate in steps, from 0.25% to 3.75% on October 26, 2022. On November 23, 2022, Bank of Canada Governor Tiff Macklem stated: "This tightening phase will draw to a close.

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We are getting closer, but we are not there yet."[1] As this report is written, another rate increase is expected on December 7, 2022.

Despite global headwinds and rising interest rates, our economy does not yet feel like one that is slowing down. There is still excess demand. Our labour markets remain tight with a low rate of unemployment, a shortage of workers and upward pressure on wages. Profit margins are elevated and loan demand remains strong.

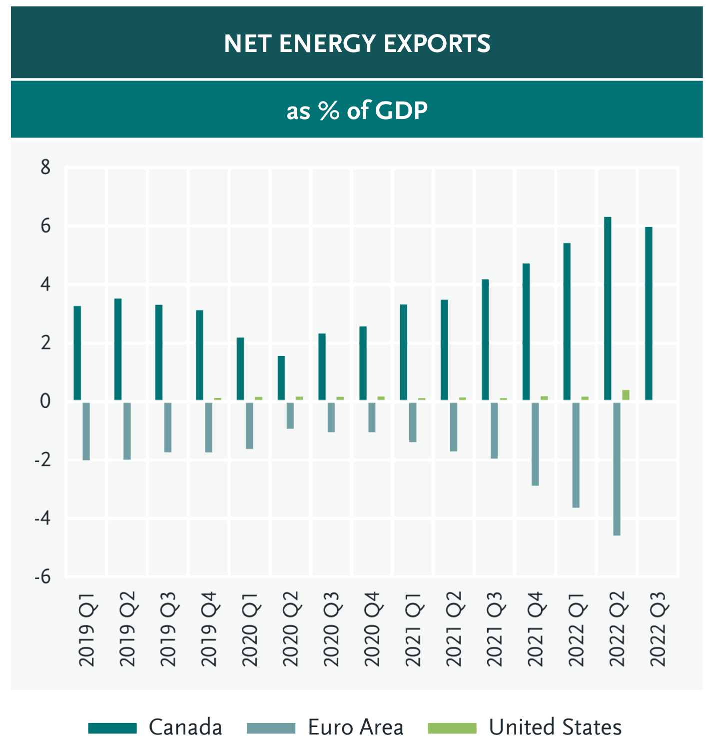
In part, that is because it takes time for higher interest rates to weigh on demand. Over the next months, the tighter financial conditions will have the expected effect and the economy will slow down. Jobs will be lost, business revenues will be squeezed and output will stagnate. The housing sector has already contracted in the second and third quarters, and household consumption also retreated in the third quarter. Early indications are that output will be roughly flat in the fourth quarter.

But there is another reason for the Canadian economy to be in a better place at this juncture than other developed economies—our strong net energy exports. The contrast with the United States and particularly Europe is striking. In the second quarter of this year, while the U.S. energy trade was roughly in balance, Canada realized a surplus of over 6% of GDP, while the euro area incurred a deficit of more than 4% of GDP (Chart 1.1). In other words, relative to the euro area, energy is an advantage for Canada equal to more than 10% of GDP.

Canada's energy advantage in a period of high prices represents a flow of revenue that is growing national income. In the first three quarters of 2022, real national income rose at an annual rate of 3% in Canada, compared with only 0.2% in the United States.[2] Corporate profits have gained, as have the revenues of governments, particularly in resource-producing provinces, like Alberta and Newfoundland and Labrador, that now have large fiscal surpluses.

Federally, the growth of nominal income resulting from inflation and from elevated profits, notably in the resource sector, has raised tax revenue sharply, helping to bring the deficit down much faster than expected.[3] Contrast our experience with that of Germany that has announced a package of measures to shield its consumers from skyrocketing energy prices in an amount of 200 billion euros—or about 5% of its GDP.

Chart 1.1:



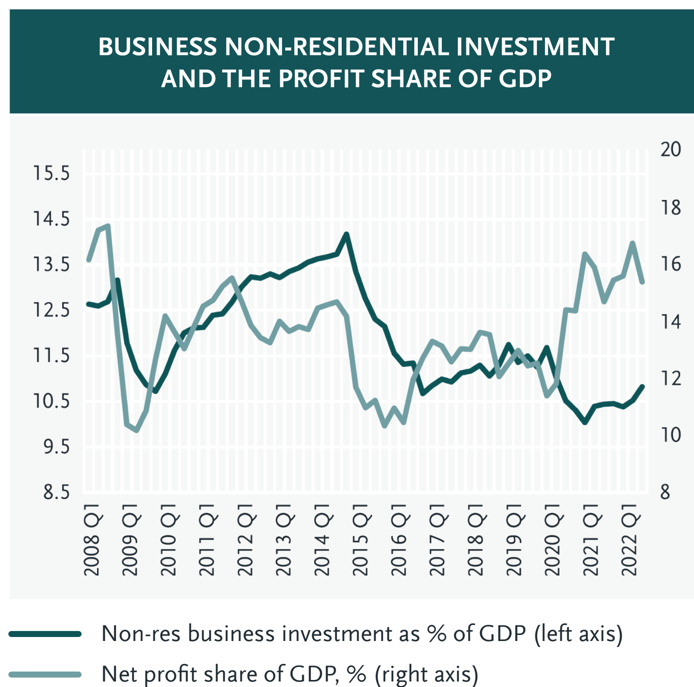
Sources: Statistics Canada tables 12-10-0121-01 and 35-10-0104-01, Eurostat, and U.S. Bureau of Economic Analysis

To date, there has not been the same investment response in Canada as in past episodes of high energy prices. Investment in the oil and gas sector, while picking up in the last quarters, remains subdued. This is explained in part by uncertainty about long-term market trends. In the United States also, rig counts and drilling activity are far below where they were when prices were last at the current levels.[4] However, some of the resistance to

investment is a function of government policy—a proposed federal cap on total emissions from the oil and gas sector is discouraging new supply, while investment in decarbonization has awaited detailed rules for tax credits and other financial incentives. Consequently, a large portion of profits has been returned to shareholders, enabling a recycling in other enterprises, but also representing a potential lost opportunity for our energy sector and for Canada when the funds are not reinvested in domestic productive capacity.

On an economy-wide basis, despite a high profit share of GDP, business investment remains sub-par (Chart 1.2). As a proportion of the economy, it is below historical averages. While in recent quarters it has grown faster than in the United States, under-performance of business investment is a factor that for some decades has explained a large and widening gap in living standards between Canada and the United States.

Chart 1.2:



Source: Statistics Canada tables 36-10-0103-01, 36-10-0104-01

The Medium-Term Perspective

Recent global and domestic developments provide insight into how Canada may address structural forces that will shape our economic prospects over the medium- to long-term.

A critical bottom line for Canada is as true today as it was one year ago—or before COVID. In fact, it is even more compelling. Investment in new, sustainable productive capacity must ramp up sharply, driven by a sense of urgency. Private and public investment in physical capital, but also in innovation, intangible capital and human capital, hold the key to transforming the economy in response to climate change, the digital revolution and population ageing.

On climate, in a world that is again placing a high value on energy security and on dependable suppliers, there is an opportunity for Canada to invest in an energy transition that can also contribute to security, prosperity and sustainability. With the right investments, Canada could export more energy, in particular liquefied natural gas (LNG). The most viable prospects are likely on the west coast where Canada could sell more LNG to Asia, and into a global market seeking both to displace coal and to replace supplies from Russia. If private investors establish a business case that delivers value to Canada "long-term, while helping to lower global emissions, then the response of governments and regulators should be to enable the investments on an expedited timeline. A path to net-zero domestic emissions and a cap on emissions from the sector could be adjusted to accommodate these investments that would be welcome by our global partners. To date, the Government of Canada has been indecisive on this question, leaving investors on the sidelines.

Domestically, the climate transition can be accelerated by investment in resources, infrastructure and technology that builds competitive advantage in traditional and new sectors of the economy. This requires public and private sector partnership and a focus on execution. For example, a decarbonized economy will require a doubling or tripling of a clean electricity grid over the next 30 years to provide reliability, security and competitively-priced energy. The retention of a vibrant automotive industry in Canada requires investment through the supply chain, from critical minerals, to batteries, to parts and to assembly of vehicles. The necessary investments are massive. Coming even close to meeting climate targets will require enormous policy and business effort. There is urgency to align parties and to get projects built.

Like the United States, Canada is well positioned—compared with major economies of Europe or Asia—to use domestic energy security to attract manufacturing and other downstream activities. This is a critical advantage that cannot be lost as the domestic economy undergoes its transition to a low-carbon energy system. Investment in new and expanded infrastructure will have to be sustained to meet demand for cleaner energy at home without disruption or uncertainty of supply.

Climate policy is industrial policy. The U.S. *Inflation Reduction Act* is a game changer. It creates a set of incentives for private investors in the energy transition that in scope and scale surpasses by a wide margin the offer in Canada. The risk for us is an outflow of capital and a loss of competitive advantage. U.S. policy will evolve under a new U.S. Congress. Moreover, the tools in Canada will be different. For example, Canada has a carbon price in place, notably for large emitters. The federal government introduced a tax credit for investment in Carbon Capture, Utilization, and Sequestration (CCUS) in Budget 2022, and it followed up in the Fall Economic Statement by announcing new tax credits for clean technology and clean hydrogen.[5] The government is also launching a $15 billion Canada Growth Fund to partner with private investors. Other instruments are supporting the manufacturing in Canada of zero -emission vehicles and investments upstream in the supply chain. In Budget 2023, the government will need to take stock of its policy suite and ensure that its proposition to investors is attractive enough to spur investment for the transition, sustainability and competitiveness of our industries. Fiscal parameters, including taxation and targeted supports, are important; so is a predictable, streamlined regulatory system for project reviews, a matter we take up in Chapter V. In a world of uncertainty, policy has to help ground and de-risk investments.

There should be no illusion that the response to climate change can be delivered without large upfront costs for energy users or taxpayers. Clean technologies like wind and solar energy can be competitive, but the large investments in electricity systems—and in the development, demonstration and deployment of technologies in transportation, industry and buildings—will be expensive. Investments to ensure the resilience of infrastructure to climate events will also be costly. **There will need to be informed debates about how the costs can be allocated fairly.**

As Canada responds to climate change, it is equally important that it bolster investment in innovation, technology and intangible capital that are critical drivers of productivity growth. This requires a policy framework, including taxation and economic regulation, that incites stronger private investment. For example, the allocation and pricing spectrum, the resource that enables wireless networks, has to support investments that will deliver high quality connectivity to all regions of the country and accelerate the diffusion of data-driven technologies for competitive advantage. This can propel productivity gains across all sectors, from agriculture to health care.

With private investment and an enabling policy framework, the financial sector is undergoing a transformation that can be a source of economic gain. Innovation through digitalization is much broader and deeper in this sector than implied by the volatile value of cryptocurrencies. And the policy response has to go beyond simply regulating crypto assets as securities. Such developments as faster and cheaper retail payments, open models of banking and finance, or use of such technologies as blockchains or other decentralized ledgers hold the promise of stronger competition, lower fees and better services. These benefits can be realized only if the public and private sectors work together in deploying innovation while protecting trust in the financial system. Other countries have jumped ahead in seizing opportunities. Canada has to catch up.

In today's geopolitical environment, the pursuit of technological innovation requires striking the right global partnerships and carefully managing security risks. The U.S.-China strategic rivalry, and setbacks in relationships between China and western democracies, including Canada, does not mean that trade with China must come to a halt. Most of the volume of trade between Canada and China comprises goods or even services that do not pose strategic risks. However, investment in such technologies as 5G, artificial intelligence, robotics or bio-engineering, or even upstream resources like lithium for batteries, now must be approached from the perspective not only of competitiveness, but also of national security. The United States is forcing a de-coupling with China for strategic supply chains, from critical minerals, to semi-conductors, to finished goods. It is in Canada's interest to work with the United States and other market-based economies on secure supply chains. Governments, businesses and universities have to conduct their business and, in particular innovation, with heightened attention to security risks, including cybersecurity and intellectual property risks.

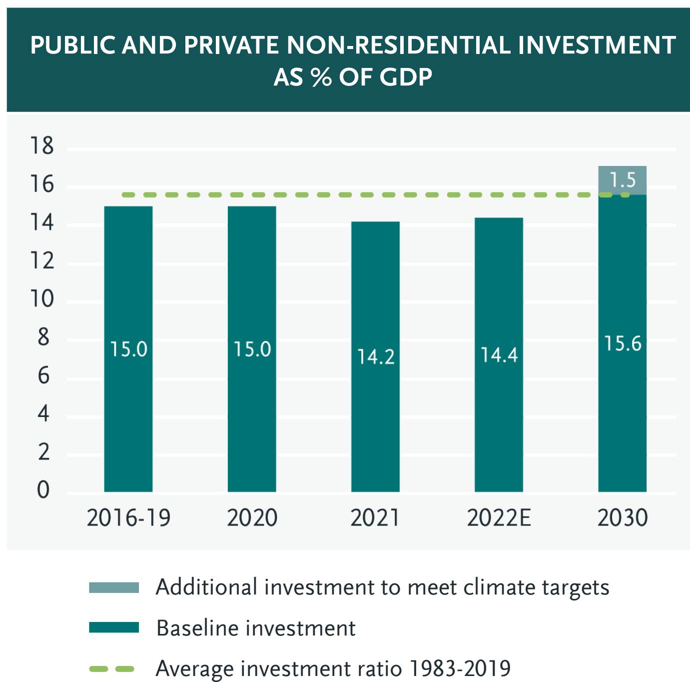
Yet, in traditional as in new sectors of the economy, and across different regions of the world including the Indo-Pacific, Canada should intensify its work with global partners to resist protectionism and to strengthen trade and investment linkage. The energy transition, the acceleration of innovation and the pursuit of productivity gains require mobilizing both domestic and foreign capital and improving our competitiveness and capacity to sell goods and services in a global market.

The tight labour market makes even more compelling the case to provide workers with more capital equipment and better training, not only to close supply gaps, but also to grow output per worker and to sustain and improve living standards as our population ages. Structurally, tighter labour markets will require policy and market efforts to grow the labour force. This can be accommodated partly through immigration, and partly through efforts to expand participation in the labour force, for example among Canadians in the 55-64 age cohort or older. However, without more investment per worker, including capital investment as well as skilling and re-skilling, the economy will not make the gains in productive capacity necessary to deal with demographic change.

The challenge to transform the economy is daunting: in our estimates, it requires raising public and private non-residential investment as a proportion of GDP from about 14.4% of GDP in 2022 to at least 17% of GDP before 2030. The target for 2030 is an estimate conveyed in our *Fall 2022 Economic Outlook*. Returning to a historical average of 15.6% of GDP provides the capital deepening and technological innovation to grow the economy in a period of demographic ageing. To this is added an annual investment of some 1.5% of GDP to meet climate targets and to build the ecosystem for Canada to compete in a low carbon economy. Preliminary results for 2022 show a modest improvement relative to 2021 but still a long way

to go to get to a target that would have to be met consistently over a period of many years (Chart 1.3). By way of illustration, lifting investment to 17% of GDP would represent an added outlay in 2022 of some $80 billion.

Chart 1.3:



Source: Statistics Canada table 36-10-0104-01

The Short-Term Prospects

Clearly, as businesses and governments plan investment for long-term structural change, they have to manage short-term pressures, uncertainties and risks. Businesses are uncertain about the evolution of their costs, including material inputs and labour. They are concerned about demand and about the risks of a recession. They are also uncertain about their cost of financing.

Our Baseline Scenario for the United States and Canada, presented in Chapter III, is based on the assessment that prices and wages will adjust relatively smoothly to the tightening of monetary conditions. Real output in the two economies would be roughly flat during 2023 (fourth-quarter-to-fourth-quarter), and it would grow about 2% during 2024. With the policy interest rates of the Federal Reserve and the Bank of Canada peaking in early 2023 at 5.25% and 4.5%, respectively, inflation in both the United States and Canada should return to close to the 2% target by the end of 2024.

This Baseline Scenario is subject to a number of assumptions about global "known unknowns" that can evolve quickly and sharply. There is a wide dispersion of plausible outcomes. COVID, the war in Ukraine, commodity markets, the Chinese economy, global trade and investment, public and private debt and the state of capital markets, all can evolve in ways that will affect results. On balance, our baseline is reasonably optimistic.

With also domestic risks, there is a possibility of a pronounced recession in the United States and in Canada in 2023 or early 2024. How deep and how long, and how Canada would fare relative to the United States, would depend in part on how the more pronounced slowdown would affect demand and supply, and thus whether or how it would exacerbate, or correct, supply deficiency.

The Policy Guideposts

Against this backdrop, the Bank of Canada, like the Federal Reserve, is focused on bringing inflation down and not allowing high inflation expectations to get entrenched. As discussed in greater detail in Chapter IV on labour markets, there is no evidence at this time of a wage-price spiral. However, central banks are correctly vigilant. If inflation expectations become de-anchored, both prices and wages would become "sticky" even as monetary conditions are tightened. Interest rates would then have to be pushed up higher, and growth reduced further than otherwise necessary. This would result in a costlier and lengthier adjustment, for example in our household sector that is highly indebted and vulnerable to housing risks.

In calibrating interventions to bring inflation back to the 1%-3% band, central banks also have to consider some of the structural disruptions and forces that will affect prices over the longer term. The war in Ukraine, the economic sanctions, higher public expenditures on defence, the shift of some supply chains away from China, the climate transition and population ageing all come with costs that will flow through the economy and put pressure on prices. Central banks have to gauge carefully the right path of return to price stability in this adverse environment. It is unlikely that monetary policy may accommodate any time soon a return to near-zero interest rates.

If the instruments of the central bank are blunt, affecting all parts of the economy, governments have flexibility through a wider range of instruments to facilitate adaptation to severe repercussions of economic developments by certain sectors, regions or groups. Targeted measures—for example, to help lower-income households confront rising housing, energy or food costs —in some cases are appropriate to aid adjustment that is reasonable and fair.

Governments have a responsibility to complement monetary policy and to help moderate demand and inflation. This is aided in Canada at this time as spending is coming down from elevated levels during COVID, and as revenue is boosted by the effects of inflation on the tax base. While governments have a strong inclination to use a portion of their inflated revenue to raise transfers to persons and to offset cost-of-living increases, they have to measure carefully the impacts on demand and on prices. Poorly targeted measures can be counterproductive. Moreover, governments have to weigh carefully their choices where there is significant demand for spending in domains like health care that are subject to structural cost pressures. Given critical needs for investment in areas such as public infrastructure, governments have to be attentive to debt sustainability. With higher real interest rates and weaker growth going forward, the higher debt service payments could crowd out spending on services to Canadians or investment. The choices would then become starker, between cutbacks in services or higher taxes to maintain them.

In sum, in an environment of uncertainty, policy authorities can assist by providing a measure of balance, predictability and stability. The recent policy experience of the government of the United Kingdom and the swift reaction in capital markets serve as a reminder that policy matters and that confidence globally is fragile in a period of considerable turmoil.

Credible policy, anchored in a plan with clear and reasonable targets, is critical to secure the confidence of businesses as well as households, whether this is about:

- controlling the pandemic;
- returning to price stability;
- ensuring the sustainability of public finances;
- transforming and growing the economy through investment in new productive capacity; or
- placing the economy on a path of lower emissions and a long-term goal of net-zero.

With the right policy framework, governments and businesses can consider a range of plausible outcomes in their planning, protect against downside risks and be prepared to capture opportunities from upside risks as well as long-term trends. Public and private sector collaboration may then deliver careful management of risk and an ability to get things done.

II. The Global Context:

A Complex Economic, Geopolitical and Trade Environment

A tour d'horizon of the world today shows developments and trends that have worsened short-term economic prospects, heightened uncertainty and risk for international trade and investment and stimulated an ever more complex discussion about the future of international economic relations.

The key takeaway for businesses is that they must remain agile in responding to continued uncertainty, volatility and shifting trade rules and patterns, including being prepared to seize upside opportunities.

The Macroeconomy: Short-Term Prospects

High inflation and weak global growth are likely to persist through much of 2023. In its October 2022 Monetary Policy Report, the Bank of Canada projected global growth to decline from roughly 3.25% in 2022 to about 1.5% in 2023, before edging back to 2.6% in 2024.[1] Inflation would come down steadily and return to close to central bank targets in 2024. The projection represented a downward adjustment from the bank's projection of only three months earlier to global GDP growth of 0.4% for both 2023 and 2024. The International Monetary Fund (IMF) similarly had revised down its growth projections in the October World Economic Outlook (WEO) as the effects of high inflation, tighter financial conditions and the war in Ukraine took stronger hold.[2] The IMF noted that its WEO presented the weakest growth profile since 2001, except for the global financial crisis and the acute phase of the COVID-19 pandemic.

Prospects vary by region, and outcomes will be shaped by the evolution of a range of factors, with the balance of risks to the downside, but also scope for some positive developments. As detailed below, going forward, the key factors that bear on outcomes that will vary by region include:

- the war in Ukraine;
- high energy prices in Europe;
- disruptions in global food supply and supply chains generally;
- domestic economic and financial stress in China as well as U.S.-China and China-Taiwan tensions and the impact of "friend-shoring" by western economies;
- the effects of a fractured political environment in the United States (such as potential Congressional deadlock over the debt ceiling); and
- a strong U.S. dollar adding to debt pressures in highly-indebted developing countries.

Of course, a renewed surge in COVID infections—or new more lethal variants—pose added risks. Many of these factors could also weaken trade activity. Overall, risks are tilted to the downside, but an end to the war, faster supply chain adjustments, a sharper fall in inflation and other positive developments could create some upside as 2023 unfolds.

Although there is no strong policy coordination in a divided world, there is a shared preoccupation with restoring price stability, while protecting the most vulnerable from disruptions such as high energy prices. Major central banks must raise interest rates to tame inflation even as the economy is facing headwinds. Governments that have just pulled back some of the exceptional fiscal support

extended through COVID have to stay on a track of fiscal adjustment even as they face new spending pressures because higher interest rates will mean heavier debt service charges that can impair their fiscal room.

Overall, what is preponderant is uncertainty, risk and the complex interactions that will bear not only on economic aggregates, but also on trade and investment trends, patterns, rules and arrangements.

Regional Developments and Prospects

The War in Ukraine

The war has enormous direct material costs for Ukraine and Russia, as well as impacts on confidence, spending and financial markets across Europe and globally. Russia's economy is likely to contract by 10% this year, notwithstanding still large oil and gas revenues. Ukraine's GDP will drop by about 30%. These costs are huge, but a fraction of what are much larger and long-lasting repercussions worldwide.

Sanctions and countermeasures continue to disrupt commodity markets, exerting pressure on prices and reorienting trade flows. Disruptions encompass grains and fertilizer, base metals and rare minerals and prominently oil and gas. A global food crisis has been aggravated by Russia's hesitations in extending its participation in the agreement brokered by the United Nations to facilitate grain shipments, with the current agreement lasting only 120 days.

China and East-West Tensions

China's economy faces major headwinds, with multiple causes and global impact. In response to stubborn and widespread recurrences of COVID outbreaks, the government has maintained a hard-line lockdown policy with negative consequences for both production and consumption. Real property investment, and as a result building activity, are severely constrained as years of rapid growth have proved unsustainable and as credit flow has been stemmed by both market and policy factors. Droughts, higher commodity prices and slowing global demand are further reducing growth prospects.

Politically, China is continuing to harden its stance on state control of the economy, Taiwan and relations with the West. Xi Jingping's leadership was extended and strengthened at this autumn's party congress. Tensions between China and the United States and its allies are increasing, with a constraining impact on China's export earnings. The greater prudence of foreign enterprises in considering expanded business in China is also dampening inward investment.

Taking all of this together, Chinese growth for 2022 will be the lowest in four decades except for the first year of the pandemic. The Bank of Canada projects growth as low as 2.4% this year and about 5% in 2023 and 2024. The IMF is more optimistic for 2022 (3.2%) and slightly less so for 2023 (4.4%). In both cases, the growth projections are well below the average of about 5.5% over the past two decades.

Despite this slowdown, given its weight, and given projections in other major economies, China may still account for about 30% of global growth in 2023.

The Energy Crisis in Europe

Both advanced and emerging Europe are likely to face a recession in 2023. The Bank of Canada projects a contraction of output of 0.5% for the euro zone in 2023, after appreciable growth of 3.1% in 2022. The IMF is more optimistic for the euro zone as a whole (growth of 0.5% in 2023) but it also projects a drop of real output in Germany and Italy. The extent of exposure to the effects of the war is a key factor.

The war has led to a severe energy crisis in the European Union (EU) and in the United Kingdom (U.K.) that is sharply increasing the costs of living and hampering economic activity by raising costs for firms. The price of natural gas has increased more than four-fold since 2021, with Russia cutting deliveries to less than 20% of their 2021 levels, raising the prospect of energy shortages over this winter and potentially extending through 2023 into 2024. Supply shortages and disruptions in other commodities have slowed production in the automotive and other sectors. Extreme weather events such as high temperatures and droughts have caused further disruptions. The vulnerability of individual economies is a function of a complex set of geographical, market and policy factors. For example, having been highly dependent on Russian gas before supply disruptions, and with limited alternative supply options, Austria and Germany will likely need to ration gas use and will continue to face shortages going forward. Central European countries for their part will face the spillover effects from the recession in Germany.

Policy differences within the EU regarding how much price support to provide, and in what form, or how to reduce demand and share supply, add to energy and economic insecurity. Policy authorities in the euro zone are struggling to find an approach to tame inflation, on the one hand, and to assist their economies to weather cost pressures and maintain employment, on the other hand. Germany's go-it-alone plan on energy subsidies, in an amount approximating 5% of its GDP, has upset some of its European partners that would have preferred a coordinated, collective response. A new government in Italy is weighing its options. Outside the euro zone, the United Kingdom has turned this difficult balancing act into a political and financial crisis, leading to the ouster of a Prime Minister and Chancellor of the Exchequer and their replacements by a team now focused on restoring policy stability and market confidence.

Impacts of Global Disruptions in Emerging Markets and Developing Countries

The impacts of higher prices for fuels, food and fertilizers, tighter global financial conditions and slower growth are felt in emerging and developing countries in ways that depend in each case on the composition of trade, indebtedness and economic fundamentals. Unlike in previous crises, investors are differentiating across these markets. So far, the larger emerging economies, as well as commodity exporters that are selling at higher prices, are more resilient and less vulnerable to balance of payments shocks.

Some frontier markets are facing potential loss of access to capital markets and a high probability of sovereign default. The IMF estimates that more than half of all low-income countries are already in, or have a high probability of entering, debt distress.[3] Challenges are greatest for economies that have borrowed in U.S. dollars. Some local currency bond markets have also seen large net portfolio outflows.

The Prospects for Global Trade and Investment

Going into 2023, trends for global trade and investment comprise a slowing merchandise trade *volume* growth (though still robust merchandise trade *value* growth because of higher prices), and also comparatively strong services trade growth. The World Trade Organization (WTO) projects that trade volume growth will be only 1% in 2023, down from 3.5% in 2022.[4] The trend is confirmed by a global purchasing managers' index tracked by the WTO that suggests that global manufacturing activity has stalled and that goods trade will continue to slow in the coming months.[5] However, the value of merchandise trade continues to rise at a faster rate, particularly for energy and agricultural commodities. Trade in services shows stronger numbers in major economies, thanks to the easing of COVID restrictions and the return of travel and increased transportation activity, with China an exception given its ongoing strict lockdown policy.

As with the economy more generally, subdued prospects for trade are attributable to multiple factors, some reflecting protectionist policies that can lead to efficiency losses and add to inflationary pressures. The factors include continuing supply chain disruptions, lower consumer demand and thus an overhang of inventories, sanctions, U.S. and Canada-China tensions and related trade restrictions, continuing pressures for more resilient and reliable sourcing, and protectionist measures in many countries.

Supply Chains and Trade Routes

While transport costs, including for containers, have dropped, warehousing costs remain elevated. Consumer demand has shifted from goods to services such as travel and hospitality, easing pressures on the goods transportation system. However, there is now significant excess inventory in a range of products. Trade in food and fertilizers and a range of metals and minerals also remains significantly constrained by blockage of routes because of the war in Ukraine and by Western sanctions against Russia.

U.S.-China Tensions and Related Trade Restrictions

The U.S. trade relationship with China continues to be adversarial, with significant consequences. The United States has maintained Trump-era tariffs on Chinese goods while heightening investment screening, and it has broadened prohibitions on high technology exports to China, with an aggressive policy regarding semiconductors. Targeted restrictions are being implemented by the United States on exports of advanced technology goods and services to China, and on the import and use of Chinese technology, such as 5G equipment. U.S. export controls now have extraordinary and extraterritorial reach, prohibiting export to China of specific chips produced anywhere in the world, whether by American or foreign firms, using American machinery, for example. According to the Peterson Institute for International Economics, U.S. imports from China of information technology hardware and consumer electronics have dropped 62% since tariffs of 25% were imposed in 2018, whereas imports from the rest of the world are 60% higher.[6] The increasing recognition that economic security is intertwined with national security is leading to additional measures in sectors where dependency on Chinese sources of supply is seen as a threat, such as lithium and rare earth elements.

In its recently released Indo-Pacific Strategy, Canada has laid down clear markers that will constrain trade and investment relations with China, as discussed below, and is joining the United States and Europe to tighten bans on the importation of goods produced with forced labour, with a particular eye on value chains that include China's Xinjiang region and its Uyghur population. As a result, firms must maintain due diligence on whether their suppliers do business in the region because, even if a good does not originate from Xinjiang, restrictions could apply if the good includes inputs from that region.

Conversely, to address domestic problems, China has restricted the export of fertilizer in an already tight global market. This measure by a major producer taking significant volumes off the international market has had a global price impact. China has also cut off steel exports to bring its domestic prices down. Again, given its weight in global supply, this has tended to lift prices in the international market.

China has more than once sought to restrict exports for political ends, partly in response to what it perceived as politically-motivated steps by the United States or other global partners. As a major supplier of rare earth elements to the world, China earlier imposed export restrictions claimed to have been taken on conservation grounds. However, China was unable to substantiate its claims when challenged at the WTO and the measures were found to be inconsistent with China's WTO obligations. Shortly after the most recent U.S.

semiconductor chip restrictions, China announced new, more restrictive export quotas on several rare earth elements, again ostensibly on conservation grounds. The potential short supply of such materials could disrupt chip and other computer-related manufacturing, electric vehicle and battery production, and other goods throughout the world.

Many producers have shifted some production away from China because of such export restrictions and a concern that, in a context of rising geopolitical rivalry with the United States, in particular, more could follow.[7]

Protectionism and Friend-Shoring

Trade restrictions for protectionist ends remain prevalent. In the early stages of the COVID pandemic, many countries imposed trade restrictions, disrupting global supply and distribution. For example, as a matter of public health, some countries restricted the export of medical devices such as ventilators, masks and other personal protective equipment, as well as food staples. Protectionist policies remain most pronounced in the world's food supply chains, where they risk exacerbating food insecurity and hunger in vulnerable countries. Following Russia's invasion of Ukraine, several countries implemented export bans covering dozens of staples and food basics such as wheat, sugar and oils to ensure sufficient supply at home. According to the International Food Policy Research Institute, this has affected over 17% of global calories traded.

"Friend-shoring" adds a significant new dimension to the orientation of trade and investment flows. Evidence of the risk of the "weaponization" of trade between the United States and China, as well as the war in Ukraine, have led to calls among Western allies to promote "friend-shoring"—to encourage the sourcing of supply, especially for critical goods and technologies, in friendly economies and the development of alternative supply chains to ensure resilience in case of disruptions. Deputy Prime Minister and Finance Minister Chrystia Freeland, in a speech at the Brookings Institution in October 2022, argued forcefully that friend-shoring should serve to strengthen ties among countries sharing democratic values.[8] She added that although the West should continue to trade with autocratic regimes, "we should avoid strategic vulnerabilities in our supply chains and our economies more broadly."

Yet, even "friends" apply trade restrictions that can disrupt global trade and impose costs. The *U.S. Inflation Reduction Act* (the Act) includes "Buy America" provisions to encourage U.S. technological leadership. Significant efforts by Canada and the North American auto industry were required in the case of electric vehicles to have the provisions amended to "Buy North America". The Act also includes significant subsidies for "green" automotive components produced in U.S. factories and for new or upgraded U.S. facilities to build renewable energy components. The EU has highlighted the discriminatory nature of these measures and has warned of two potential adverse consequences should an accommodation not be reached: a subsidies "war" where the EU matches the U.S. incentives in its market, or a major trans-Atlantic trade dispute. The EU for its part has enacted an International Procurement Instrument, authorizing limits on non-EU companies' ability to access the bloc's public procurement market if their governments do not offer EU companies similar access to public tenders. Initiatives by our partners on semiconductors—while targeting China—are introducing distortions to wider trade and investment flows. For example, the U.S. *CHIPS and Science Act* provides massive subsidies limited to U.S. firms for domestic production. The EU is proceeding to likely passage early next year of its own European Chips Act to achieve self-sufficiency. A country like Canada that does not have the scale to develop its own semi-conductor industry has to secure supply in this complex environment.

Trade Negotiations and Rules

Despite this array of protectionist initiatives and pressures, efforts continue to promote rules-based trade.

Multilateral and Plurilateral Initiatives

The WTO's 12th Ministerial Conference (MC12) in June 2022 arrived at some decisions. This included an agreement on disciplining fisheries subsidies, as well as new waiver provisions on intellectual property disciplines to address concerns over the availability of pharmaceuticals to fight the pandemic, though both results are less than many sought. While ministers are to engage in follow-up discussions to set a forward agenda, it remains to be seen if momentum can be sustained in the months ahead. Western countries remain highly critical of China's pervasive industrial subsidies and state ownership and control of major enterprises in various sectors, an area not adequately covered by international trade rules. China for its part objects to the frequent invocation of "national security" grounds for restricting its trade and investment into the United States and other Western countries. With WTO rules also not effectively disciplining agricultural subsidies around the world, major challenges remain in formulating a forward negotiating agenda. The continuing paralysis of the WTO Appellate Body also affects WTO members' confidence in the strength of existing disciplines.

The Indo-Pacific region is the focus of several trade-related initiatives. In its recently announced Indo-Pacific Strategy, Canada set out robust trade and investment targets, with the true test of commitment to come in its implementation. Peru and Malaysia recently have ratified the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), leaving only Chile yet to do so among the 11 signatories. Accession discussions have begun with the United Kingdom. Both China and Taiwan have formally applied to join, as has Ecuador—other countries are expected to do so soon. The Association of Southeast Asian Nations (ASEAN)-led Regional Comprehensive Economic Partnership (RCEP) that includes China is also operational. And the United States has launched an Indo-Pacific Economic Framework initiative (IPEF) with 13 countries at the table. Canada has now requested to join IPEF, as reflected in its own Indo-Pacific Strategy (See box).

In parallel, several initiatives have brought countries across regions together in efforts to liberalize trade in certain sectors or products. For example, the United States and Canada, the U.S.-led "quad" with Japan, the EU and India, and Canada and the EU each have working groups to pursue secure supply chains in critical minerals. A nascent Digital Economy Partnership Agreement among Singapore, New Zealand and Chile sets high standards for electronic commerce; Canada has requested to join, and the agreement has attracted positive interest from both the United States and China. A number of "Joint Statement Initiatives" have emerged from discussions at the WTO, including on electronic commerce, investment facilitation for development, services domestic regulation and micro, small, and medium-sized enterprises, reflecting agreement among large numbers of like-minded countries. While these "plurilateral" efforts are aimed ultimately at achieving universal adherence, proponents are considering whether to finalize agreements among smaller groups of nations to realize benefits and serve as stepping stones for wider participation.

Canada's Indo-Pacific Strategy—the Trade and Investment Dimension

In its Indo-Pacific Strategy, Canada announced a robust set of targets, explicitly framed to diversify trade and investment beyond China and strengthen ties with reliable partners. It encompasses a new "trade hub" in Singapore, an agriculture and agri-food office in the region, the naming of an Indo-Pacific Trade representative, expanding the mandate of FinDev Canada to the Indo-Pacific and ramping up blended financing opportunities for sustainable infrastructure under the G7 Partnership for global infrastructure and investment.

The government intends to launch a series of large-scale Team Canada trade missions with provinces and businesses, an enhanced CanExport program to support SMEs, innovators and industry associations to pursue new opportunities in the region, and to enhance its support to local women entrepreneurs in the region by expanded international partnerships under the Women Entrepreneurship Strategy.

Conversely, the strategy directs the Trade Commissioner Service to provide expert advice on China's market while promoting export diversification across the region, confirms the government's intention to "reinforce" the *Investment Canada Act,* to oversee stronger enforcement, to add more precautions to protect intellectual property and Canadian research and to continue to work with like-minded partners in the region to counter economic coercion and non-market practices. This will be accompanied by technical assistance to Indo-Pacific trading partners to improve the enforcement of labour provisions, including on forced labour, in current and future free trade agreements with Canada, in the name of both helping to protect workers' rights and ensuring companies are respecting human rights in their supply chains, and to contribute to "levelling the playing field for Canadian workers and employers."

Similarly, in an implicit response to Chinese initiatives, the strategy puts emphasis on Canada working with its partners to develop digital infrastructure, promote interoperability and coherent regulations affecting the Internet, the digital economy and trust and security in the use of information and communications technology.

At home, the strategy promises significant investments in domestic transportation infrastructure projects through the National Trade Corridors Fund, such as investments in the ports of Vancouver and Prince Rupert, for major upgrades to Canada's marine, port, airport, road and rail infrastructure, increasing national trading capacity, fluidity and efficiency.

With like-minded partners, the strategy commits to greater Canadian involvement and alignment with regional initiatives, such as the Australia-Japan-India Supply Chain Resilience Initiative, and technical, policy and high-level cooperation through APEC on standards, conformity assessment procedures and best practices to enhance trade.

Energy is highlighted as a Canadian advantage, and the strategy aims to position Canada as a reliable supplier of clean energy in the region—and in a net-zero-emissions economy—including critical minerals and hydrogen, to fight climate change, be an energy security partner and support global climate goals, through expanded natural resource ties.

Japan, the Republic of Korea, India, Singapore and Taiwan are identified as key counterparts for Canada's science, technology and innovation partnerships to support international co-innovation projects and commercialization-oriented research and development partnerships.

On the negotiating front, the strategy gives continued priority to strengthening and expanding the CPTPP, and in a message to China and other potential applicants, states that support will continue to be "based on high standards and track records." It confirms Canada's desire to join the Indo-Pacific Economic Framework for Prosperity, and forward trade and investment negotiating agenda with ASEAN, India and Indonesia, and on new or modernized Foreign Investment Promotion and Protection Agreements with Singapore, New Zealand and Chile.[9]

Overall, the strategy offers a strong direction. But its true measure will be taken by delivery of results.

Bennett Jones

Canadian Trade Pursuits

Canada continues to pursue an active free trade policy agenda, as reflected in its Indo-Pacific Strategy. Formal negotiations have begun on a Canada-ASEAN Free Trade Agreement (FTA) and a Canada-Indonesia FTA. Canada and Korea are also considering updating their FTA. Discussions on a possible Canada-Taiwan investment protection agreement are expected to begin shortly. While the Comprehensive Economic and Trade Agreement (CETA) with the EU awaits ratification from some member states, it is largely operational. Meanwhile, Canada-U.K. negotiations on a post-BREXIT trade agreement continue. Canada and India are seeking an "early harvest" to provide liberalization in some sectors as part of ongoing FTA negotiations. And Canada continues to chair the "Ottawa Group", a caucus of middle powers committed to promoting the multilateral rules-based system, including through WTO reform.

Canada-U.S.-Mexico Agreement (CUSMA)

Trade relationships in North America have some points of tension, with disagreements managed largely within the frame of the CUSMA. The second North American Leaders' Summit—a forum renewed under the Biden Presidency—is expected to be held in January 2023. Its proceedings and tone may provide an indication of whether and how existing issues may be resolved.

Between Canada and the United States, most of the trade is trouble free, yet disputes remain. Canada and Mexico together have challenged the manner in which the United States has applied CUSMA rules of origin to automotive trade, with a ruling expected in January. There are also familiar disagreements between Canada and the United States over supply-managed dairy quotas, softwood lumber and cultural industries (including Canada's proposed measures to impose a digital tax and to subject streaming services to content control by the Canadian Radio-television and Telecommunications Commission). Overall, however, the trade relationship is in a good place.

Mexico, however, has taken several measures of concern to CUSMA partners and businesses. It has asserted greater state control of the oil, gas and electricity sectors, nationalized its lithium mines and production, and in the agricultural sector, unilaterally changed food safety standards, ultimately seeking to ban all genetically-modified food products from the country. Canada and the United States have launched a CUSMA dispute settlement proceeding on the energy measures. The "Rapid Response Mechanism" under CUSMA has been successfully invoked five times by U.S. petitioners to ensure the enforcement of labour rights at specific Mexican plants.

Heterogeneity or Decoupling?

Against this backdrop, there is a lively debate among experts on the direction of global trade and investment, on whether we have reached peak globalization, and on whether and to what extent there is now a decoupling of the global economy between east and west, or democracies and autocracies (in particular, China and Russia). For some, decoupling is indeed taking place and this will deny economies the benefits of comparative advantage. The risk of splintering of standards on matters ranging from food safety to the Internet and information technology, to financial services, would accelerate this separation of the global economy into two or more blocs. For example, Indo-Pacific developing and middle-income countries may have to navigate between Chinese-led requirements under RCEP and U.S.-led standards under IPEF. Others argue that bilateral, plurilateral and multilateral frameworks have long co-existed,

and often complement each other. Under this view, agreement in a smaller setting often serves as a catalyst for broader, multilateral agreement, as occurred when the original NAFTA showed the way to agreement in Geneva on improved rules for multilateral trade, reflected in subsequent WTO agreements. While trade tensions can emerge along the way if one country or region becomes the first mover, for example, in integrating trade and climate through a border carbon fee, tax or adjustment, such evolution of standards does not itself represent a disintegration of an underlying rules-based framework.

There is growing acceptance of "friend-shoring" as a strategy. COVID shortages raised awareness of the importance of supply chain resiliency, as many firms diversified their sources and moved from "just in time" to "just in case" purchasing and inventory management. Growing U.S.-China tensions, and Russian actions and Western sanctions, have added impetus to reliability as key to doing business. "Friend-shoring" also now encompasses the notion that economic security is intertwined with national security. The goal is not to decouple or deglobalize trade or business generally, but rather to ensure in key sectors, and for key commodities and materials, that like-minded countries can together ensure security of supply. This is particularly the case where there can be over-reliance on few sources of supply, especially if the country governing such resources is prone to "weaponizing" export of the product. **The potential downside of expanding such an approach is reduced availability of, and increased costs for, such goods. Creeping protectionism under the guise of national security or supporting democracies is creating headwinds for central banks, including the Bank of Canada, as they seek to reign in inflation. The risk for Canada and for Canadian businesses is that "friend-shoring" becomes a justification for protectionism that would close off, rather than open up, avenues for competitive sourcing and trade.**

There is scant evidence of decoupling more generally. Moreover, there is no policy or business case for it. Western governments and businesses continue to seek global opportunities, including in China, given the significant size of the market and the growing middle class of consumers. For its part, China is dependent on Western businesses and consumers for its export earnings, and the majority of trade is in sectors or goods that should not raise questions of economic or national security.

However, a more fragmented set of rules, instances of economic measures being taken for political or strategic reasons, and protectionist pressures will likely continue be characteristic of global commerce. With a WTO somewhat stalled and unable to keep pace with the evolving interests of its members and the needs of global businesses, hundreds of bilateral, regional and plurilateral arrangements are filling the vacuum. Businesses will thus face transactional costs in navigating tariff schedules and a variety of regulatory requirements under the "spaghetti bowl" or "noodle bowl" of trade and investment agreements. **In sum, businesses must remain agile in responding to continued uncertainty, volatility and shifting trade rules and patterns, while being prepared to seize upside market opportunities.**

III. Perspective and Scenarios for the United States and Canada to 2024:

Growth on Pause as Inflation Has to Be Tackled

Against a volatile and complex global backdrop, the review of recent developments and prospects for the U.S. and Canadian economies draws out the importance of the fight against inflation in shaping short-term outcomes and in creating conditions for a return to sustainable growth.

Recent Developments

As the year progressed, consumer price inflation in the United States and Canada in 2022 turned out to be consistently more virulent than expected, prompting central banks to tighten monetary policy at an accelerated pace to regain credibility and to hold back inflation expectations. In the United States, the tightening of financial conditions began in the first quarter. The economy was then already slowing down, in part because higher prices for gasoline, food and shelter were moderating domestic demand. The higher interest rates so far have had only a small effect on U.S. domestic demand, except for housing and perhaps inventory investment. Overall, U.S. real GDP remained flat on average over the first three quarters of the year. In Canada, the effect of higher interest rates on domestic demand was too small to prevent real GDP from growing robustly over the same period, largely on the strength of inventory investment and household consumption of services.

In both the United States and Canada, consumer price inflation remains stubbornly high, although it has retreated slowly with a fall in gasoline prices. Headline annual Consumer Price Index (CPI) inflation peaked in June 2022, at 9% in the United States and 8.1% in Canada. By October 2022, year-over-year inflation was 7.7% and 6.9%, respectively, as energy prices dropped about 10% in the two countries between June and October.

While, to date, year-on-year core inflation has shown no significant deceleration since peaks earlier in the year, the pace of monthly price increases has slowed markedly, suggesting a moderating trend. In the United States, in part because of stubbornly high inflation for services, 12-month U.S. core inflation measured by the CPI excluding food and energy in October, at 6.3%, was still at roughly its level of the first two quarters (Table 3.1). However, the annualized pace of monthly price increase during the three months ending in October was significantly slower, at 5.8%, than in June (7.9%). The same observations hold true for Canada. Core inflation measured by both the "trimmed mean" and the CPI excluding food and energy has remained very close to 5.3% since June. However, the rate of increase in the CPI excluding food and energy fell from 7.1% (annualized) during the three months ending in June, to 3.7% during the three months ending in October. This is a tangible indication that inflation for core goods and services is beginning to moderate.

Wages have been pushed up in both the United States and Canada, on different paths; and in Canada on average since the beginning of the pandemic at rates roughly aligned with CPI inflation. In the United States, a historically tight job market pushed year-over-year wage increases to 5.7% as early as the first quarter of 2022 (Table 3.2)—wage pressure appears to have eased modestly since then, with average year-over-year increases of 5.4%

Table 3.1:

CONSUMER PRICE INFLATION IN THE UNITED STATES AND CANADA					
12-MONTH %	**Q4 2019**	**Q1 2022**	**Q2 2022**	**Q3 2022**	**Oct. 2022**
UNITED STATES:					
CPI - all items	2.1	8.0	8.7	8.3	7.7
CPI - excl. food and energy	2.3	6.3	6.0	6.3	6.3
CANADA:					
CPI - all items	2.1	5.8	7.5	7.2	6.9
CPI - excl. food and energy	1.9	4.0	5.1	5.4	5.3
CPI inflation - trimmed mean	2.1	4.3	5.3	5.3	5.3
3-MONTH S.A.A.R. %	**Dec. 2019**	**Mar. 2022**	**Jun. 2022**	**Sept. 2022**	**Oct. 2022**
UNITED STATES:					
CPI - all items	2.6	11.3	11.0	2.0	3.8
CPI - excl. food and energy	1.8	5.8	7.9	6.0	5.8
CANADA:					
CPI - all items	3.0	10.0	10.4	2.4	4.3
CPI - excl. food and energy	0.9	6.3	7.1	4.9	3.7

Sources: U.S. Bureau of Labor Statistics; and Statistics Canada tables 18-10-0004-01, 18-10-0006-01 and 18-10-0256-01.

Table 3.2:

JOB VACANCIES AND HOURLY EARNINGS IN THE UNITED STATES AND CANADA					
	Q4 2019	**Q1 2022**	**Q2 2022**	**Q3 2022**	**Average Oct-Nov 2022**
UNITED STATES:					
Job vacancies per unemployed	1.2	1.8	2.0	1.9	
Average hourly earnings - y/y% (not s.a.)	3.2	5.7	5.3	4.9	5.4
CANADA:					
Job vacancies per unemployed	0.5	0.7	1.0	0.9	
LFS hourly wage rate - y/y% (not s.a.)	4.3	3.0	4.1	5.3	5.6

Sources: U.S. Bureau of Labor Statistics and Statistics Canada tables 14-10-0326-01, 14-10-0017-01 and 14-10-0063-01.

in October to November. In Canada, also with tight labour markets, the rate of annual wage increases has risen through 2022, from 3.0% in the first quarter to 5.6% in October to November. Deflated by the CPI, the average wage rate in Canada (i.e., the real wage rate) was at the same level in October 2022 as just before the COVID pandemic, both average wage rate and CPI having increased by the same 12% between January 2020 and October 2022 (see Chapter IV).

The path of inflation remains risky to predict inasmuch as the Bank of Canada attributes much of the rise of the CPI above the 2% target since mid-2021 to "other factors" that, over and above "known unknowns", would affect outcomes. "Other factors" represent a residual category of variables once the effects of commodity prices, supply-related disruptions, non-commodity import prices, inflation expectations and the output gap are accounted for based on past relationships to inflation. According to the Bank, these "other factors" could reflect underestimated demand pressures or greater pass-through from oil or import prices. They likely work their way into higher consumer price inflation in part through increased gross margins above unit labour costs in the production, distribution and sales of consumer goods and services.

In order to bring inflation back to its 2% target as soon as possible in 2024, the Federal Reserve has tightened monetary policy substantially since last February. It has done so first by raising its policy rate beginning in March from 0.25% (upper limit) to 4% in November, and second by starting to reduce its holdings of securities in June and accelerating the pace of this quantitative tightening in September (Table 3.3). These actions have pushed longer-term interest rates higher, with the 10-year Treasury yield climbing from 1.9% in February to 3.9% in November. Mostly reflecting expectations that monetary policy will tighten more in the United States than in most other economies, the U.S. dollar appreciated about 8.5% against a broad basket of currencies between February and November (5.8% against the Canadian dollar). This appreciation should work toward reducing U.S. inflation to the extent that the resulting lower import prices are passed through into lower domestic prices and costs. Conversely, it has the effect of pushing up import prices in other economies, adding to inflationary pressure. For some emerging and developing economies that are importers of commodities and that are indebted in U.S. dollars, the challenge is acute.

Table 3.3:

KEY FINANCIAL RATES FOR THE UNITED STATES AND CANADA			
	Feb	Jun	Nov
Federal funds rate - upper limit - %	0.25	1.75	4.0
Canadian overnight rate - %	0.25	1.5	3.75
U.S. 10-year Treasury yield - %	1.9	3.1	3.9
10-year Canada bond yield - %	1.9	3.3	3.2
Broad U.S. dollar index - Jan.2006 = 100	115.0	120.2	124.9
Canadian dollar per US dollar	1.27	1.28	1.34

Similarly, the Bank of Canada raised its policy rate in six installments, from 0.25% to 3.75% by October, while also reducing the size of its balance sheet. The bank begun quantitative tightening in late April by not replacing maturing Government of Canada bonds; by the end of October, it had reduced its holdings of Government of Canada securities by $46 billion. Longer-term interest rates adjusted to the tightening of monetary policy, with the 10-year rate averaging 3.2% since May. The lower 10-year rate in Canada relative to the United States since August likely reflects the judgement of markets that the peak policy rate will be lower in Canada than in the United States on the course to bring inflation down. The Canadian dollar has depreciated significantly

relative to the United States dollar since April, likely reflecting the multilateral appreciation of the United States dollar and the fall in oil prices after June. Still, with the pronounced tightening of monetary policy in Canada, our dollar has performed better against the U.S. dollar than many other currencies, including the euro, the yen, or the pound sterling.

Together with monetary tightening, there has been a reduction of fiscal support in both the United States and Canada over the course of the last year that also has acted to moderate demand growth. Compared with the United States, the withdrawal of fiscal support in Canada was front-loaded as most of the exceptional measures introduced during the pandemic expired by the end of 2021. Net government borrowing[1] as a percentage of GDP dropped by 4.5 percentage points in the third quarter of 2021, from 6.6% to 2.1%. It continued to drop, more slowly, over the next three quarters. In fact, government net borrowing in Canada was basically nil in the second quarter of 2022. Fiscal tightening was reversed somewhat in the third quarter, with net borrowing rising to a still modest 0.6% of GDP. In the United States, fiscal tightening was sharpest in the fourth quarter of 2021 and the first quarter of 2022. Net government borrowing in the United States as a percentage of GDP then *increased* by about 1.0 percentage point in each of the next two quarters, again reversing fiscal tightening. It is striking that by the end of this period, net government borrowing in the United States, at 4.6% of GDP, is far higher than in Canada, at 0.6% of GDP.

Table 3.4: Net Government Borrowing in the United States and Canada

NET GOVERNMENT BORROWING AS % OF GDP:						
	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022
UNITED STATES	11.9	9.8	6.7	2.7	3.7	4.6
CANADA	6.6	2.1	1.6	1.6	-0.1	0.6

Sources: U.S. Bureau of Economic Analysis and Statistics Canada table 36-10-0477-01.

Table 3.5: Real GDP Growth in the United States and Canada

ANNUALIZED QUARTERLY GROWTH RATES OF REAL GDP AND CONTRIBUTIONS OF COMPONENTS (%)					
	Q4/Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q3 2022/ Q4 2021
UNITED STATES					
Real GDP growth	5.7	-1.6	-0.6	2.9	0.2
Contributions from: Personal consumption	4.7	0.9	1.4	1.2	1.2
Contributions from: Housing	0.0	-0.2	-0.9	-1.4	-0.8
CANADA					
Real GDP growth	3.9	2.8	3.2	2.9	3.0
Contributions from: Household consumption	2.8	1.2	4.8	-0.5	1.8
Contributions from: Housing	-0.2	0.8	-3.5	-1.4	-1.4

Sources: U.S. Bureau of Economic Analysis and Statistics Canada table 36-10-0104-01.

U.S. real GDP growth turned negative in the first half of the year (-1.1% at annual rates) before rebounding to 2.9% in the third quarter, thereby bringing output back to its end-2021 level (Table 3.5). Even with the sharp slowdown from high growth through 2021, the economy remained well in excess demand through the first three quarters of 2022. The negative growth in the first half of the year reflects a drop in housing, but more importantly a surge in imports of goods and a fall in inventory investment, which suggests that domestic supply constraints may have been at play. The rebound of GDP in the third quarter was fuelled by a drop in net imports, partly reflecting a surge in exports of petroleum and products, solid growth in personal consumption of services and in non-residential business investment, and a rebound in government consumption and investment. Housing and inventory investment continued to decline in the third quarter while personal consumption of goods, likely depressed by high consumer prices, was flat.

Monthly indicators of activity in the fourth quarter so far suggest that the U.S. economy is maintaining at least a moderate pace of growth. Employment increased at a solid pace in October and November. The GDPNow estimate put out by the Federal Reserve Bank of Atlanta, which admittedly is subject to considerable error, calls for 2.8% growth as of December 1.

In contrast with the United States, real GDP in Canada advanced at a robust 3% annual rate during the first three quarters of 2022. In the first half of the year, much of the growth originated from inventory investment, household consumption of services, and non-residential business investment, mainly in structures. In the third quarter, growth came mostly from a surge in real net exports, led by crude oil and bitumen. A slight increase in inventory investment barely contributed to growth, and it was more than offset by a small retrenchment of final domestic demand, the first one since the second quarter of 2021. Final domestic demand edged down despite strength in consumption of services and business investment in structures, and a rebound in government consumption of goods and services. This is because housing, which is most sensitive to interest rates, plunged again in the third quarter, subtracting 1.4 percentage points from annualized GDP growth. Household consumption of goods also dropped across durables, semi-durables and non-durables.

Based on the profile of growth in the third quarter, and advanced indicators, we expect very modest real GDP growth in the fourth quarter. Real net exports likely will make a smaller contribution to growth. While goods consumption and thus final domestic demand may rebound somewhat, inventory investment should come down from its very high level in the third quarter. Statistics Canada's advanced indication of real GDP growth of 0% for October points in the direction of very modest growth for the quarter.

Where We Go from Here: A Baseline Scenario

The development of any economic scenario starts with what one knows, and then with some assumptions about what is unknown. Typically, there is greater certainty about the near-term than about the longer term. Such is not the case today. The structural forces that will shape our future are well-known—demography, the climate and technology. Yet, the near-term is exceptionally uncertain as governments and businesses are grappling with the consequences of a pandemic (including persistent supply constraints, and fiscal and monetary stimuli that overshot) and a war in Europe and sanctions (disruptions in commodity markets and food, and energy crises).

For the medium-term, we can expect continued inflationary pressures, less excess saving, higher interest rates, falling labour force participation and reduced global specialization. In this supply-

constrained world, central banks will maintain policy rates higher than for most of the past 20 years, while governments, despite incurring a higher cost of debt service, likely will need to raise public spending and investment as a share of GDP in order to provide health care to an ageing population and to finance infrastructure necessary to facilitate energy transformation and adaptation to climate change.

In the near future, in spite of the considerable uncertainty about the magnitude and timing of economic adjustment, there is little doubt that the Canadian and U.S. economies will stall, that policy interest rates will soon be at their peak in this business cycle, and that inflation will be on a downward track. These are the basic elements of our outlook scenario for the short-term.

Drawing on the analysis of the global economic context as presented in Chapter II, our scenario rests on the following assumptions about global uncertainties in 2023-24.

- The lingering impact of **COVID** on labour supply is likely to be small such that it will not exacerbate labour cost pressure.
- Disruptions caused by the **war in Ukraine** and by sanctions will keep energy and food prices high in 2023, but less so than in 2022. The effects of the conflict will diminish further in 2024.
- Correspondingly, the **prices of energy and other commodities** decline appreciably in 2023 and to a lesser extent in 2024, to levels still higher than pre-pandemic. The West Texas Intermediate (WTI) price of oil falls from US$95 in 2022, to within a range of US$70-85 in 2023 and 2024 (Table 3.6). A slower global economy will moderate the demand for oil.
- While temporary disruptions may arise along the way, **global supply chains** adjust such that there are no longer the gaps and bottlenecks that applied exceptional pressure on prices in 2021 and 2022.
- **Inflation** remains the pressing problem in most economies (except China), requiring higher **policy interest rates.** Thus, global growth decelerates markedly in 2023. The pickup in growth in 2024 is modest as inflation persists and as central banks have to maintain policy rates at levels that by the end of 2024 are still higher than pre-COVID.
- The **euro area** experiences a significant recession in 2023 and a weak rebound in 2024, with tighter financial conditions, high uncertainty and lower confidence levels weighing on growth.
- With fewer expected effects from pandemic-related lockdowns, growth in **China** is projected to pick up in 2023 but remain subdued by historical standards as financial stresses and large excess supply in the property market continue to restrain growth.

Table 3.6:

KEY EXTERNAL ASSUMPTIONS				
	2021	2022	2023	2024
WTI oil price US$ per bbl	68	95	70-85	70-85
Real GDP growth rate (%):				
Euro area	5.2	3.1	-0.5	1.6
China	8.1	2.4	4.9	5.0

The Monetary Policy Outlook

After rapidly and substantially tightening monetary policy in 2022, with the full effects still to be felt, the Federal Reserve and the Bank of Canada are on a course of raising interest rates in smaller increments. The Bank of Canada reduced the size of its policy rate hike in October, to 50 basis points from 100 points in July and 75 points in September, while the Federal Reserve in November signaled that, starting in December, increases in the policy rate will be smaller than the 75 basis

points implemented in each of the last four Federal Open Market Committee meetings. This strategy of deliberately slowing the pace of rate hikes, notwithstanding persistently high inflation, reduces the risk of over-tightening, and thus of depressing the economy more than necessary to achieve price stability within a reasonable period.

We expect the Federal Reserve to have lifted the target federal funds rate to 5.25% (upper limit) by March 2023 (Table 3.7). The Federal Reserve would keep the policy rate at that level until the end of 2023. It would then gradually reduce it to around 3.0% by the end of 2024 as inflation moves towards the 2% target. On a quarterly basis, the 10-year Treasury yield is likely to peak at nearly 4% in the fourth quarter of 2022, and then start declining gradually to 3-3.5% by the end of 2024.

Table 3.7:

U.S. AND CANADIAN INTEREST RATES IN THE SHORT TERM			
	Q1 2023	Q4 2023	Q4 2024
Federal funds rate - upper limit - %	5.25	5.25	3.0
Canadian overnight rate - %	4.5	4.5	3.0
U.S. 10-year Treasury yield - %	3.75-4.0	3.25-3.75	3.0-3.5
10-year Canada bond yield - %	3.0-3.5	3.0-3.5	3.0-3.5
U.S. dollar per Canadian dollar	0.74-0.76	0.75-0.78	0.76-0.79

The Bank of Canada is likely to bring the target overnight rate to 4.50% by March at the latest. It would maintain it there until the end of 2023, before bringing it down gradually to around 3% by the end of 2024, again in response to progress in reducing inflation. The 10-year Canada bond rate, which will likely average about 3.25% in the fourth quarter of 2022, should remain in the 3-3.5% range until the end of 2024.

Table 3.8:

2022 FALL FISCAL UPDATES: CANADA, ONTARIO AND ALBERTA					
	Date of Release	2021-22	2022-23	2023-24	2024-25
CANADA					
Deficit (% of Canadian GDP)	November 3	3.6	1.3	1.1	0.9
Federal Debt (% of Canadian GDP)	November 3	45.5	42.3	42.2	41.6
Interest Costs (% of Revenues)	November 3	5.9	7.8	9.4	8.9
ONTARIO					
Deficit (% of Canadian GDP)	November 14	-0.1	0.5	0.3	0.0
Net Debt (% of Ontario GDP)	November 14	39.2	38.4	38.7	38.3
ALBERTA					
Deficit (% of Canadian GDP)	November 24	-0.2	-0.4	-0.2	-0.2
Net Debt (% of Alberta GDP)	November 24	15.2	9.9	8.7	7.5
TOTAL					
Change in deficit (% of Canadian GDP)			-2.0	-0.1	-0.4

Fiscal Impact of Deeper Recession in 2023

Under the fiscal plan presented in the Government of Canada's Fall Economic Statement (FES), the federal deficit and debt-to-GDP ratio both decline over fiscal years 2021-22 to 2024-25. Ontario's deficit peaks in 2022-23 and essentially disappears by 2024-25. In contrast, Alberta's surplus peaks in 2022-23 and diminishes by half in 2023-24 and 2024-25 as resource revenues fall along with oil and gas prices. However, there is a risk that growth will be weaker than in the governments' fiscal statements and that their fiscal position will be worse than projected as a result. Our calculations suggest that under a scenario where real GDP drops by nearly 1.5% between the fourth quarter of 2022 and the fourth quarter of 2023, the federal deficit would expand instead of contracting in 2023-24, from a (slightly higher) 1.7% of GDP in 2022-23, to a much higher 3.5% in 2023-24. While it would diminish in 2024-25, it would still be higher than in the Government of Canada's fiscal plan such that, by the end of the period, the debt-to-GDP ratio would be close to 5.0 percentage points greater than projected in the FES. This recession scenario incorporates both a deeper U.S. recession than in our Baseline Scenario and higher domestic interest rates in response to more resistant inflation in Canada. The calculations illustrate the sensitivity of fiscal results and trends relative to plans that are also based on expenditure discipline that cannot be taken for granted and on revenues that depend on uncertain economic growth and inflation.

As the U.S. dollar likely reverses in part the sharp multilateral appreciation it has experienced since mid-2021, the Canadian dollar, despite the lower policy rate than in the United States and the softening of oil prices, would likely appreciate from US$0.74 in early December to US$0.76-0.79 by the end of 2024.

Federal and Provincial Fiscal Plans

Planned reductions in the combined federal, Ontario and Alberta fiscal deficits will contribute to dampen domestic demand in 2022-23, and this may continue, albeit far more modestly, on the critical assumption that *spending by these governments is actually restrained to the levels presented in the fiscal updates released in November.* As shown in Table 3.8, and as per the base scenarios contained in their fiscal updates, the combined deficits of the federal, Ontario and Alberta governments would decline by 2.0 percentage points of Canadian GDP in 2022-23, remain essentially unchanged in 2023-24 and decline again by 0.4 percentage points in 2024-25.

Real GDP Growth

With high global uncertainty, and still much risk in projecting the magnitude and timing of the impact of the tightening of financial conditions, any growth projection for the United States and Canada over the next two years is likely to exhibit a considerable margin of error. That said, we think that our Baseline Scenario for growth set out below constitutes a reasonable basis for business planning.

We expect that the U.S. economy will experience a shallow recession in 2023, with real output falling at an average annualized rate of 0.5% during the first three quarters, before growing again at an average rate of 2.0% to the end of 2024 . On an annual basis, real growth in the United States would be 0.4% in 2023, and 1.6% in 2024 (Table 3.9). On a fourth-quarter-over-fourth-quarter (Q4/Q4) basis, growth would be zero during 2023 before rebounding to

2.1% during 2024. Much of the weakening in 2023 originates from a quasi-stagnation of personal consumption and a drop in housing, the two spending categories that are the most sensitive to higher interest rates. Some weakness also comes from business investment, which adjusts to weak short-term prospects for demand and tighter financial conditions. Net exports provide a partial offset as imports slow far more than exports.

Table 3.9:

U.S. REAL GDP GROWTH				
	2021	2022	2023	2024
Year-on-year growth - %	5.9	2.0	0.4	1.6
Q4/Q4 % change	5.7	0.7	0.0	2.1

The Canadian economy stalls in the first three quarters of 2023, with growth averaging -0.2% at an annualized rate. It revives in the fourth quarter to grow at an average annualized rate of 2.0% to the end of 2024. On an annual basis, real GDP growth slows sharply, from 3.5% in 2022 to 0.6% in 2023, before firming up to 1.7% in 2024 (Table 3.10). On a Q4/Q4 basis, real GDP barely increases during 2023 and rebounds 2.1% during 2024.

Table 3.10:

CANADIAN REAL GDP GROWTH				
	2021	2022	2023	2024
Year-on-year growth - %	5.0	3.5	0.6	1.7
Q4/Q4 % change	3.9	2.4	0.2	2.1

Our analysis of the composition and drivers of growth is similar to that of the Bank of Canada in its October Monetary Policy Report. The weakening in 2023 reflects a much slower pace of household consumption and business fixed non-residential investment, a drop in housing and a contraction of inventory investment. Net exports provide a partial offset as imports slow far more than exports. In part, this reflects the strength of oil exports and also the fact that both non-commodity exports and domestic demand components that are sensitive to financial conditions are particularly import-intensive. Real GDP growth strengthens in 2024 as the effects of higher interest rates diminish and growth in the U.S. revives. Moreover, high immigration boosts both aggregate demand and potential output. The projected appreciation of the Canadian dollar, on the other hand, contributes to the modest cyclical decline in real net exports that is expected to occur in 2024.

CPI Inflation in Canada

Paralleling developments in the United States, year-to-year CPI inflation in Canada is expected to fall from 6.9% in October 2022 to 3.4% in the fourth quarter of 2023 and 2.2% in the fourth quarter of 2024 (Table 3.11). Core inflation, as measured by the CPI excluding food and energy, should fall from 5.3% in October to 3.3% in the fourth quarter of 2023 and to 2.2% by the end of 2024.

Table 3.11:

CPI INFLATION IN CANADA IN THE SHORT TERM				
	Oct 2022	2022	2023	2024
CPI:				
Year-on-year growth - %	6.9	6.8	4.6	2.5
Q4/Q4 % change		6.8	3.4	2.2
CPI EXCL. FOOD AND ENERGY:				
Year-on-year growth - %	5.3	4.9	4.1	2.5
Q4/Q4 % change		5.2	3.3	2.2

Risks to Growth in Canada

The key downside risk to growth and upside risk to inflation over the period to 2024 relates to the stickiness of wages and prices in responding to the impact of the cumulative tightening of financial conditions.

Our assessment about the likely path of growth, price and wage inflation, and policy response in Canada hinges on our judgement that wages, prices and profit margins will respond reasonably quickly to a reduction in domestic demand resulting from tighter monetary policy. Like the Bank of Canada, we think that long-term inflation expectations are reasonably well anchored and thus that wages and prices will not be sticky in adjusting to changed demand conditions.

If Canadian inflation were to prove more sticky, interest rates would have to go higher than projected and stay high for longer. Growth would be weaker as a result. What our base projection characterizes as stagnation in the first three quarters of 2023, followed by moderate growth subsequently, could become a real recession next year with ample slack in the economy well into 2024.

Growth in Canada could also end up lower than in our Baseline Scenario if U.S. growth and commodity prices, which are drivers of Canadian growth, turn out to be weaker than anticipated. This would be the case if U.S. inflation were to prove more sticky than expected and as a result the Federal Reserve had to raise interest rates more and keep them high for longer.

Under a conjunction of more favorable factors, Canada could see modest growth instead of stagnation during 2023. If inflation in Canada were to prove less sticky than expected, real income would be less depressed, financial conditions would likely loosen earlier in 2023, and growth would pick up more than projected. If this was also happening in the United States, then the stronger U.S. growth would reinforce the impact of looser financial conditions in Canada.

IV. The Labour Market:

Persistent Gaps and Uncertain Wage Pressures

The labour market continues to be characterized by low unemployment and high job vacancies since the sharp bounce back post-COVID lockdowns. Market tightness and high inflation, not surprisingly, have led to wage pressure.

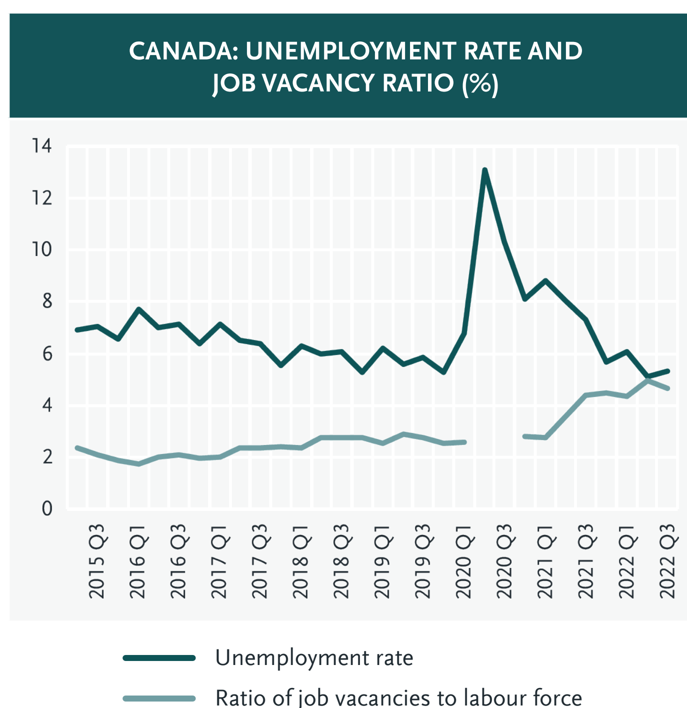
Since the start of the pandemic, wage increases have roughly matched inflation. It is an open question how wages will evolve as the economy slows down in response to global developments and to the higher interest rates imposed by the Bank of Canada. If wage growth also moderates, the job of the bank will be easier; if wages get ahead of inflation, domestic price pressures may be more persistent, requiring stronger action by the bank to get inflation back to target.

The Labour Market Continues to Be Tight

Canada's labour market continues to reflect an economy that is in excess demand, surpassing what the Bank of Canada judges to be sustainable employment. The unemployment rate, at 5.1% in November 2022, is only marginally above the historical low of 4.9% reached in June and July earlier this year.[1] Similarly, the employment rate of 61.7 % in November is just below recent peaks of earlier in 2022. Thus, to date, rising interest rates and a slowing economy have not disrupted measurably the labour market.

The tightness of the labour market is also demonstrated by a historically high level of job vacancies. There were close to one million job vacancies in September 2022, almost matching the number of unemployed.[2] As a proportion of the labour force, this represented a historical peak (Chart 4.1). In fact, exceptionally, there was no gap in the labour market at that point in the sense that labour demand (employment plus job vacancies) almost exactly matched labour supply (labour force). Our early estimates suggest a modest softening in the third quarter. The Bank of Canada Business Outlook Survey for the third quarter also suggests that labour market constraints may be easing and that related production bottlenecks may have peaked.[3]

Chart 4.1:



Sources: Statistics Canada tables 14-10-0326-01, 14-10-0372-01, and 14-10-0017-01.

Nominal Wages Are Increasing

With labour markets tight, and workers seeking protection from inflation, year-over-year average hourly wage growth was 5.6% in November 2022, surpassing 5% for a sixth consecutive month.[4] At the beginning of 2022, the year-over-year increase was only 2.4%, thus wage pressure intensified through the period. Wage rate increases do not provide the full picture of changes in labour costs for employers that also include changes to benefits, as well as the costs of workforce or workplace accommodations that have been required to sustain activity and employment post COVID. Nor do they fully account for changes in unit labour costs as the latter are also a function of changes in labour productivity. A decrease in productivity, as happened in the first half of 2022, raises unit labour costs.

Wage increases have been more regular and cumulatively greater for higher income workers through the pandemic and the recovery. In the early periods of the recovery, low as well as higher-income workers realized measurable wage gains, with lesser progression for middle-income workers. In 2022, wage increases are more clearly skewed toward higher-income workers, reflecting the higher premiums paid by employers to attract and retain skilled employees.

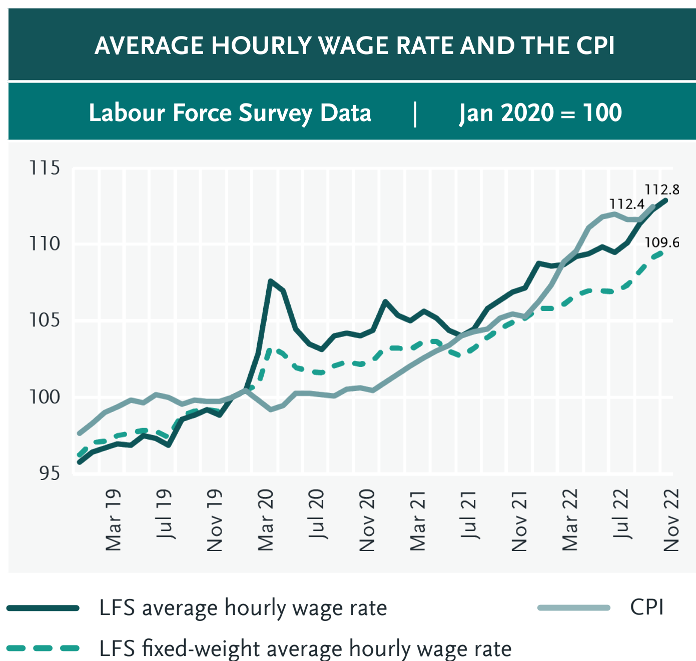
For unionized employees, hourly wage growth was lower than the average over the same period, at 3.9%, with adjustments still to take place, notably in the public sector where they will be determined by forthcoming negotiations that may prove difficult. Wages in the unionized sector can adjust more slowly to market trends and inflation because of the typical multi-year term of agreements. In the unionized public sector, annual wage increases in some provinces—namely Ontario and Manitoba—have also reflected legislated wage caps. Most recently, the Ontario Superior Court has struck down this legislation on the basis of a violation of the *Charter* right to freedom of association, and Ontario has announced it is appealing this decision. As unions now enter negotiations for new agreements with government employers, they no doubt will seek a measure of catch up to inflation, as well as adjustments to wages and working conditions necessary to attract and retain workers in high demand occupations like teachers and nurses. The recent Ontario government decision to rescind back-to-work legislation for education workers and to resume bargaining highlights the sensitivity of negotiations to be conducted in the public sector over the next months. For Ontario, this includes collective agreements for the Ontario Hospital Association that expired in March of 2022, and for the Ontario Nurses Association that expires in March 2023. Outcomes of such negotiations provincially and federally will be important not only for the labour market but for public finances and the wider economy.

To Date, No Significant Erosion of Real Wages Since the Pandemic

Since the start of the pandemic, on average the wage rates of workers have kept pace with consumer prices. The year-on-year increase in hourly wages in November 2022, at 5.6%, was below inflation, then 6.9%. However, given developments earlier in the pandemic, there is no evidence of an erosion of real wages over the period beginning in January 2020. The Labour Force Survey and CPI data show that average hourly wages and consumer prices have each risen by about 12% between January 2020 and October 2022 (Chart 4.2).

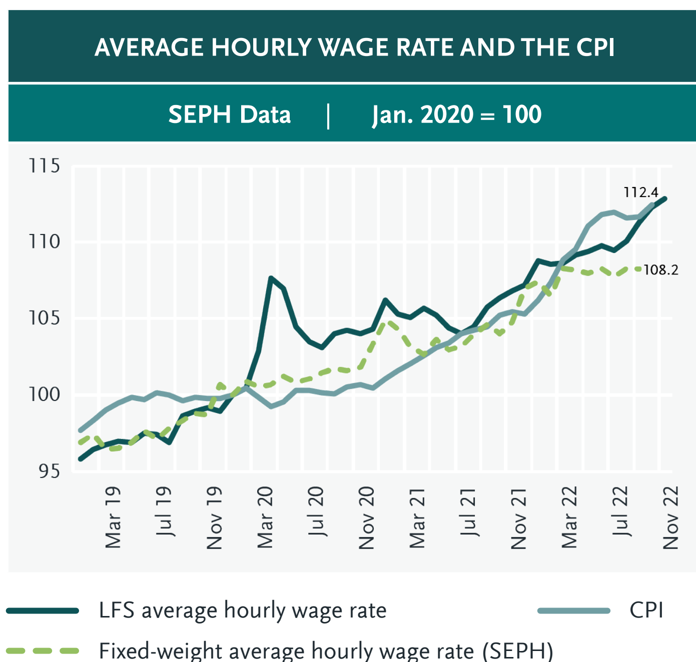
In part, the result reflects a displacement of work toward occupations with higher than average wage rates. Keeping the structure of employment by occupation, type of work (part-time and full-time) and sex the same as in 2019, the "fixed weight" average hourly wage increase since January 2020 is 9%, less than the rate of inflation of 12% over the period. The fixed weight data from the Survey of Employment, Payrolls and Hours (SEPH) tells the same story (Chart 4.3).

Chart 4.2:



Source: Statistics Canada tables 14-10-0306-01, 14-10-0296-01 and 18-10-0004-01. Calculations of fixed-weight wage rate by Bennett Jones, based on the 2019 structure of LFS employment by occupation, sex and type of work (full-time vs part-time) – 137 categories in all.

Chart 4.3:

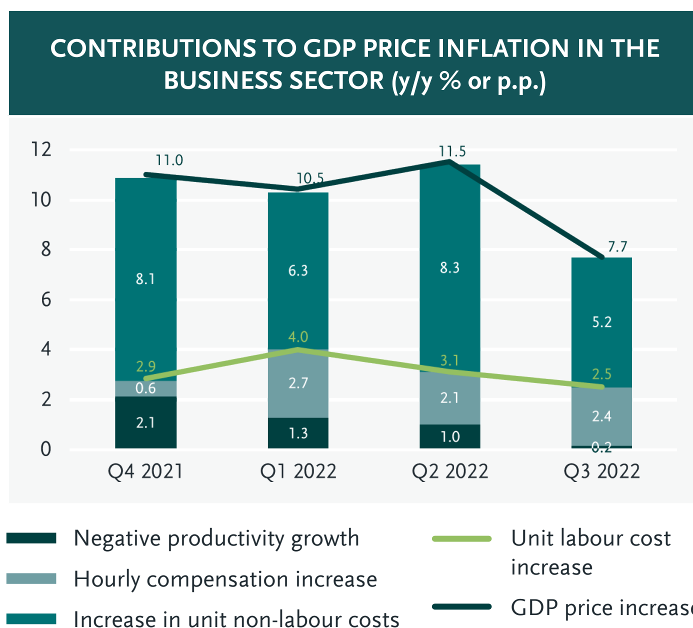


Source: Statistics Canada tables 14-10-0063-01, 14-10-0213-01 and 18-10-0004-01.

Wages Not the Driver of Inflation to Date

If wage rates have roughly kept pace with prices, it is also true that they have not been at the source of inflationary pressure to date. The contribution of wages and labour costs to inflation can be observed by considering the composition of changes to the business GDP deflator that measures the evolution of prices in the business sector, including labour, non-labour costs and margins. Since the last quarter of 2021, about two-thirds of cost inflation is explained by non-labour cost increases (Chart 4.4). This result is not surprising because of the effect of sharply rising commodity prices on both input costs and profit margins of Canadian businesses. Even excluding the mining, oil and gas industry from the business sector, hourly labour compensation may have accounted for less than 50% of the year-over-year price increase in the first quarter of 2022, and for perhaps one-third in the second quarter. Geopolitical factors, supply constraints, higher prices in global markets, wider profit margins, productivity losses and production slowdowns together appear to have contributed to GDP price inflation in the business sector more than wage rate increases.

Chart 4.4:



Source: Statistics Canada table 36-10-0206-01.

Response to Labour Shortages Require Multiple Interventions

A slowing economy will reduce the demand for workers, but given demographic trends and structural changes in the economy, widespread shortages of labour and shortages of skills will require a range of interventions and collaboration between the public and private sectors. Acute shortages are experienced currently across sectors and occupations with different profiles of skills, from food and accommodation, to health care and construction, to activities dependent on science, technology, engineering and math (STEM) skills.[5] Closing these gaps over time will require growing the supply of workers, addressing skills mismatches and raising productivity.

For sectors requiring comparatively low skills, immediate efforts focus on growing the supply of workers. The federal government has aimed to alleviate some of the pressures in these sectors, for example by broadening access to temporary foreign workers last April, and in November 2022 by increasing allowable working hours for international students. Employment in these sectors can also be targeted by programs that aim to widen participation in the labour force. Increasing temporary foreign workers may close gaps, but generally it does not represent a lasting solution.

Indeed, for all sectors, there is value in policies and practices that will entice greater participation in the workforce, notably among higher-age groups. Canada has not experienced a great resignation through the pandemic, but there remain under-utilized resources. For example, the rate of participation in the labour force of Canadians aged 55-64 is 66.6%, compared with 88.2% for those aged 25-54. This difference in the participation rate is equivalent to one million fewer workers. Enticing even a small fraction of this group back into the labour force could make a difference. Offers of remote work, part-time work and flexible hours could move the needle.

For sectors and occupations with unmet demand for higher skills, a mix of interventions must be calibrated and targeted to deliver the right supply of skills and to grow productive capacity.

Foreign skilled workers are an important part of the solution. The federal plan to welcome 500,000 new immigrants to Canada per year by 2025 (from a record 405,000 in 2022), with a target of over 60% in the economic class, including an Express Entry system for workers with skills that are in acute shortage in Canada, can make an important contribution.[6] International students graduating in STEM disciplines in Canada are a potentially valuable basin of recruits. Beyond the decisions to admit new workers to Canada is the responsibility of governments and employers to ensure that talent is well-utilized. Efforts are required to address the underemployment of skilled immigrants and, in particular, to overcome professional licensing obstacles.

The widespread transformation of the economy and the paramountcy of skills and innovation as the sources of growth mean that the effort to re-skill and up-skill the workforce has to encompass virtually all workers. Employers in Canada invest less in skills training than their U.S. counterparts. Micro courses, apprenticeships, job shadowing and mentorships should now be part of skills training packages for workers at all levels of an organization. Indeed, the availability of training and development can be a strong incentive for employees to stay in their job.

Most critically, to equip and to sustain a productive labour force, Canada needs more investment per worker—that is, investment in productivity enhancing physical and intangible capital. It is well established that capital investment per worker in Canada is lower than in the United States and in many other OECD economies.[7] The gap between Canada and the United States widened since the beginning of the pandemic: between the fourth quarter of 2019 and the third quarter of 2022, real

non-residential business investment per worker grew at an annualized rate of only 0.7% in Canada, compared with 1.2% in the United States. Results are more encouraging for the more recent period from the fourth quarter of 2021 to the third quarter of 2022: investment per worker grew robustly in Canada (6.9%) while it almost halted in the United States (0.7%). A Canadian advantage will have to be sustained over a much extended period to regain lost ground and to establish a stronger competitive position.

Looking Ahead: Uncertain Prospects For Jobs and Wages

The wide range of plausible short-term scenarios for the economy, from a moderate slowdown to a recession of uncertain depth and duration, means there can be very different outcomes for jobs and wages. Unemployment no doubt will go up and job vacancies will come down, but how pronounced the changes and how difficult the adjustments for workers is difficult to predict.

The impact of a slowing economy will vary considerably by sector. Job losses are less likely in sectors or occupations that face severe labour shortages and that are generally insensitive to interest rates—such as education or health care. Likewise, despite some ongoing adjustment in the digital economy, highly-skilled (STEM) workers will remain in high demand. In other sectors, where there is less of a labour shortage and business is more sensitive to interest rates, such as retail or wholesale trade, unemployment is more likely to rise. In yet other sectors such as housing that will experience a decline, job losses will be mitigated by the labour shortage. More generally, it is to be expected that a higher than usual proportion of the downward adjustment of labour demand will be accommodated by a reduction in job vacancies rather than in employment, mitigating at least to some extent the effect of the slowdown on unemployment.

Similarly, there is uncertainty over the direction of wages, with prospects again to vary considerably across sectors or occupations; on balance, the risk of a "price-wage" spiral, originating with higher imported prices, while not zero, can be expected to be contained. The impact of the past year's inflation on the labour market is still playing out. Key collective bargaining negotiations especially in the public and para-public sectors have not yet concluded or in some cases commenced. There is pressure on governments to provide for a "catch-up" to recent rates of inflation—especially in those sectors characterized by lower wages and labour shortages. However, with no evidence of an across-the-board erosion of real wages to date, with the Bank of Canada, like the Federal Reserve, sending consistent signals of a determination to rein in inflation, and with employers facing uncertain business prospects, it is unlikely that wages will get out of control and that they will end up driving domestic inflation over any sustained period.

Longer-term, real wage increases will have to be generated through gains in productivity that will only be achieved with greater investment in physical capital, skills and innovation.

V. The Energy Transition and Regulation:

Connecting the Dots

The response to climate change and the safeguarding of energy security require a rapid expansion of investment in energy infrastructure and technology that will happen only if there is enabling policy, including a streamlined review and permitting of projects. Status quo regulation will not permit the investments needed for energy sustainability, security and prosperity.

A New Context Globally for Major Projects

The International Energy Agency (IEA) estimates that to get on track for net-zero emissions by 2050, annual clean energy investment globally has to rise from US$1.3 trillion today to between US$2 trillion and US$4 trillion by 2030.[1] The IEA models a range of scenarios, from one reflecting the current stated policies of governments to one aligned with a goal of net-zero emissions by 2050. The greater the climate ambition, the more massive the necessary investment.

Analyses for the United States and Canada show that to achieve net-zero, there must be an expansion of the electricity system on a scale and at a pace that are unprecedented. Princeton University's Net Zero America Project concludes that the United States has to build over the next 30 years the equivalent of twice the power grid built over the last 140 years.[2] The Canadian Climate Institute observes that electricity generation capacity in Canada will need to be 2.2 to 3.4 times larger than today by 2050.[3] Research from the Royal Bank of Canada also identifies a need to double generation capacity as part of a $2 trillion transition to 2050 for Canada.[4]

An expanded flow of investment in energy infrastructure and technology is required not only to decarbonize the economy but also to ensure energy security and to mitigate price volatility, including for oil and gas. The IEA scenarios consider as permanent the rupture of energy trade flows between Russia and Europe, with a net loss of markets by Russia. On the current track, while the IEA expects global demand for all fossil fuels to plateau over the next years, it also estimates a need for a 50% increase in annual investment in oil and gas to 2030, to US$650 billion, to meet demand and to mitigate price volatility. It notes that currently Middle-East producers are the only ones making such investments that pose commercial as well as environmental risks.

With the right investments, Canada can both make a contribution to global energy security by supplying traditional (e.g., liquefied natural gas) and potentially new forms of energy (e.g., hydrogen) *and* preserve a domestic energy advantage that it can use to attract downstream activities. A business case for expansion of energy exports depends on projected market demand and price, taking into account costs and lead times to build the infrastructure, with also consideration of the carbon intensity of the activities and the impact on both global and domestic emissions. Domestically, investment can ensure, through the transition to a net-zero economy, a secure supply of competitively-priced energy for businesses and households. Energy security may then be leveraged by Canada as a factor of advantage for our resource industry and our wider economy.

The geopolitical context, including a decoupling of supply chains for strategic industries, also fosters an interest in investment in infrastructure and technology to extract, process and transform critical minerals. Again, Canada has resources and

capabilities to make a contribution to secure supply chains, to export into global markets and to build domestic advantage.

Globally, investment in the energy transition will have to be driven and funded largely by the private sector in an environment of high uncertainty, requiring a policy environment that to the greatest extent can de-risk projects and provide stability and predictability. The long lead times to build projects and the wide range of plausible supply, demand and price scenarios for all energy sources and materials mean that all investments carry significant market risk. If this is compounded by undue policy and regulatory risks, the investments will simply not happen.

The regulatory review and permitting of projects must be responsive to this environment, with streamlined processes and sensible risk management. This is a challenge globally. The IEA notes the following:

> *"Permitting provisions and deadlines are often complex and time-consuming. Clear procedures for project approval, supported by adequate administrative capacity, are vital to accelerate the flow of viable, investable projects – both for clean energy supply as well as for efficiency and electrification."*[5]

Project regulation has been a subject of debate in Canada for years. A new global context and a requirement to ramp up investment sharply and fast can provide a new impetus to drive efficiency. The Deputy Prime Minister and Minister of Finance recognized this new context in her speech to the Brookings Institution in Washington, D.C. on October 11, 2022:

> *" … Canada must – and will – show similar generosity in fast-tracking, for example, the energy and mining projects our allies need to heat their homes and to manufacture electric vehicles."*[6]

The Challenge of Regulatory Streamlining

For prospective investors in infrastructure and resource projects in Canada, the regulatory system, including the process for Indigenous consultations, is widely perceived as high risk. The system is seen as uncertain, complex, lengthy, expansive, uncoordinated, lacking predictability and at times politicized or indecisive, thus adding considerably to project costs and risks and complicating the decision to invest. For many investors, the risks are prohibitive.

Risks can be mitigated by proponents through solid preparation and meaningful engagement with communities, including Indigenous peoples. Proponents have to map out diligently regulatory processes and timelines, identify potential issues, mitigate risks, seek the consent of Indigenous groups through meaningful consultation and accommodation and build productive partnerships. This upfront investment can diminish considerably execution risks and costs.

Yet, even sophisticated investors may lack the confidence that the regulatory system will deliver approvals on a timeline and at conditions that will preserve project economics. Even with the best preparation, there is rarely a straight line between project design and a green light to proceed. Upfront investment is at risk, often until late in a process. In fact, after projects are approved, permitting delays, court challenges, regulatory intervention or local opposition can still impede construction. This adds to costs that have to be absorbed by shareholders or by clients.

Streamlining regulation will not happen with a stroke of a pen. It is a system—and one that must also secure the confidence of the public. There are many pieces of legislation—federal and provincial—that determine the process for project approvals and permitting. Indigenous consultations are conducted in a legal framework that is framed by Constitutional

rights and by jurisprudence. While governments and regulatory bodies have to pursue greater efficiency, they have to be diligent, to ensure that the public interest is served, and that Indigenous rights are protected.

Nonetheless, by focusing on the end game—advancing energy transition and energy security—governments and regulators can drive change and fix the flaws in the system by addressing the key attributes of the system that shape the experience and perception of participants.

Attributes of a Sound and Efficient Regulatory System

Ten attributes may be cited that require attention by federal, provincial and even local authorities.

1. **High objective standards of performance:** There is alignment, at least at the level of principles, among project proponents, regulators and other participants in the regulatory process on the need for Canada to meet and to set world-leading objective standards of performance—whether in respect of safety and security, emissions or environmental integrity. There are important business advantages for proponents to meet performance standards that are science based, that align or improve upon best global practice, and that can be enforced consistently. Similarly, there is a broadly-shared understanding of the value of productive relationships with Indigenous peoples and with communities.

2. **Transparency and engagement:** Equally, there is wide agreement that regulatory processes must be transparent and accessible in order to provide confidence that decisions may be based on the right body of facts and evidence. This includes meaningful consultations with Indigenous peoples to ensure the protection of rights and interests, to seek consent, and to offer reasonable accommodation where rights may be affected.

3. **Timeliness:** This is where tension arises most acutely between proponents of large projects on one hand, and regulators and in some cases other participants in the regulatory process, on the other hand. Investment is on hold, and funds expended by proponents in support of project development and regulatory review are at risk, until such time as a decision may be taken. For large projects, this investment can be in the tens or even hundreds of millions of dollars. The tension may be exacerbated where a project (for example, a transmission line or a carbon capture and sequestration project) forms part of the strategy of the proponent to comply with climate regulations by a deadline. Through the project review period, the proponent then has to consider fall-back options that in turn carry costs and risks. While acts or regulations in some cases specify a time frame for decisions, in practice the many exchanges of information between the proponent and the regulator, determining when the clock for decision making starts and stops, limit the assurance of timeliness. Regulators should be responsive to the reality that time is money and that there is a public interest in delivering timely decisions and accelerating the pace of the energy transition. This can mean taking risks, and deciding even when there is less than perfect information.

4. **Predictability:** Closely related to the timeline is the predictability of the timeline and outcome of the regulatory review and Indigenous consultations. Ideally, early in a process proponents should be advised whether their project poses specific issues that could impede an approval and what timeline, with a reasonable level of confidence, will be necessary to complete the regulatory review and the Indigenous consultations. If there appear to be show-stoppers, then proponents have the opportunity to cut their losses. If not, work can then focus on reasonable conditions to manage adverse impacts and on steps to

foster a productive relationship with Indigenous groups and communities. Regulators may then help considerably to "de-risk" investments. Predictability could also be enhanced by providing, through a privative clause in law, that decisions of regulators are generally final and that recourse to the courts to re-litigate issues will be carefully circumscribed.

5. **Risk management and balance:** Regulators are in the business of risk management. Yet some approaches like the application of the precautionary principle can lead to risk not being minimized but rather shifted to other places. Taking more time to obtain more information and to achieve greater certainty for some parameters poses risks. Imposing conditions that aim to minimize or eliminate a risk can impose costs that compromise the viability of a project—alternative projects may not deliver better outcomes. There are trade-offs. This was most evident in the domain of public health during COVID. Governments on a daily basis had to decide what activity to permit and what measures to impose, knowing that total shutdowns would be prohibitive economically or socially and thus accepting implicitly a measure of community contagion and sickness. During the same period, construction on a segment of the multi-billion dollar Trans Mountain Pipeline Expansion project was halted for more than two months because of the discovery of a hummingbird nest on the ground, without evident consideration of costs involved for the proponent and for the economy. Thus, the regulatory processes, the conditions imposed on proponents, and the oversight of development, must be founded on sound risk management and a balance of considerations.

6. **Integration:** The roles, responsibilities and authorities of each federal and provincial regulator are codified in their respective statutes—with only limited cross-walks. Yet, any large project will involve multiple federal and provincial regulators. Impact or environmental assessments (EAs) are intended to pull together the contributions of different regulators and to enable proponents to have an integrated view of conditions to meet for implementation of a project. However, before the EA process where proponents wish to take the measure of requirements, and after the EA process where proponents proceed to permitting, they have to deal with a diversity of regulators, each with their distinct points of access, information requirements, processes, and timelines. This dispersion of authority can create blind spots and allow choke points to go unattended. The processes of consultation and collaboration among regulators at the moment are largely voluntary, for example based on memoranda of understanding. There should be more formal channels of collaboration, including federal and provincial, that provide single access points for proponents and more active coordination of processes, timelines and resolution of problems. Much of this can be done administratively, without changes to legislation.

7. **Expertise and resources:** Regulation is an ever more complex business that can only be delivered competently by well-resourced organizations, with expert talent, robust information and communications technology, and solid leadership. Talent is a critical challenge in an environment of labour shortage where activity has to ramp up considerably and where proponents, regulators and other participants in the regulatory process compete for the same resources. Simply put, governments cannot short-change their regulators. And while cost recovery is a sensible approach, and indeed while proponents generally are willing to pay the price of solid regulatory capacity, there is a role for governments to contribute to baseline capacity and to ensure the best available leadership for delivery of results. In the Fall Economic Statement, the Minister of Finance announced

$1.28 billion of funding over six years to federal regulatory agencies and departments to "increase their capacity and improve the efficiency of assessments in order to respond to a growing number of major projects being proposed." Provinces may also need to make investments.

8. **Independence:** Independence of project review and decision making has been a theme of considerable debate in Canada since the *Canadian Environmental Assessment Act, 2012* and even more so since adoption of the *Impact Assessment Act*. The principal concern of many project proponents and policy commentators is a real or perceived weakening of the authority of expert regulatory bodies, and a corresponding widening of the scope for government discretion, in the decision of whether a project may be approved to be built. There can be disagreement about who ultimately is best placed to adjudicate the public interest where there are many competing objectives—economic, environmental or social. There is an argument for a decision to be rendered by an independent authority on the basis of criteria set out in law. There is also an argument for a decision to be taken by a democratically-elected government, accountable to the public, on the basis of the objective analysis and recommendations of an independent regulatory body. What matters most is the clarity of the process, the careful delineation of the scope for government discretion, and the transparency and objectivity of decision-making. The worst-case scenario is an extended and costly process that culminates in a political decision that is based on subjective factors outside the control of even the most committed proponents. Even the possibility of such an outcome can be a strong deterrent for investment. Governments should be clear that where a project is approved or recommended for approval by an expert regulator, any residual discretion will be exercised quickly and then with a strong bias to approve projects and to facilitate their timely implementation with reasonable conditions.

9. **Accountability:** There should be accountability for the effectiveness and efficiency of the regulatory system—certainly within any jurisdiction and ideally even across jurisdictions. The capacity of the economy to execute investments cannot be determined simply by disparate and uncoordinated regulatory decisions, with no accountability for what can then appear to be a random walk. Even where regulators are independent—that is, where they carry their processes and render their decisions without political interference—there must be a high-level direction, the setting of expectations, the tracking of performance against objective criteria and then some accountability for results. The final test is whether we are able to get projects built on a timeline, in a responsible manner, and competitively.

10. **Credibility:** The credibility of our institutions and regulatory system is the ultimate and critical criterion in delivering on the public good because the confidence of participants and the wider public is critical for economy-wide and society-wide enterprises such as:

    - controlling the pandemic;
    - getting inflation back to target;
    - transforming and growing the economy through investment in new productive capacity; and
    - placing the economy on a path of lower emissions and a goal of net-zero.

    There will never be unanimity but a credible regulatory process should be able to secure the confidence necessary for projects to get built and for decisions ultimately to be respected by proponents, other participants in the regulatory process, and the public.

Conclusion

Canada will not realize an energy transition and procure energy security without a regulatory system that enables projects to get built on a scale and at a pace far surpassing the performance of the last years.

Regulators have an enormous responsibility. Of course, to execute on their legislated mandate. But to do so responsively and efficiently, with an understanding of the end game. Because they are on the front lines, they should also be clear with governments about how the regulatory system can be improved, and resourced, to deliver the best outcomes. Bottlenecks need to be resolved.

Governments have to be clear about their expectations of the regulatory system, how they will empower, support and resource the regulatory bodies—and how they will ensure accountability for results.

Fundamentally, regulation must be an enabler, not an inhibitor, of good projects getting built. Canada has paid a heavy price over the years in this goal not being clear. The price, economic but also environmental and social, will get only steeper unless there is a better commitment to this end game.

VI. Proposed Planning Parameters for Businesses

Our proposed planning parameters for businesses for the period to the end of 2024 are based on the Baseline Scenario set out in Chapter III. The scenario tells the story of U.S. and Canadian economies that evolve broadly in sync: interest rates peak in early 2023, output stagnates during 2023 and it grows moderately during 2024 as inflation gradually retreats toward the 2% target.

There is high global uncertainty—and much risk in assessing the magnitude and timing of the impact of the tightening of financial conditions in the United States and Canada. Correspondingly, there is a range of plausible economic outcomes and thus a considerable margin of error associated with any scenario. That said, we think that our Baseline Scenario for growth, inflation and interest rates for 2023 and 2024, together with careful risk management, constitutes a reasonable basis for business planning.

Table 6.1:

	United States	Canada
	Baseline Scenario	Baseline Scenario
GDP GROWTH (Q4/Q4% CHANGE)		
2021	5.7	3.9
2022	0.7	2.4
2023	0.0	0.2
2024	2.1	2.1
CPI EXCL. FOOD AND ENERGY (Q4/Q4% CHANGE)		
2021	5.0	3.2
2022	6.1	5.2
2023	3.8	3.3
2024	2.3	2.2
HEADLINE CPI (Q4/Q4% CHANGE)		
2021	6.7	4.7
2022	7.6	6.8
2023	3.5	3.4
2024	2.2	2.2
POLICY RATE (%)		
Q1 2023	5.25	4.5
Q4 2023	5.25	4.5
Q4 2024	3	3
10-YEAR TREASURY YIELD (%)		
Q1 2023	3.75-4.0	3.0-3.5
Q4 2023	3.25-3.75	3.0-3.5
Q4 2024	3.0-3.5	3.0-3.5
WTI OIL PRICE (US$ PER BARREL)		
2022	95	
2023	70-85	
2024	70-85	

Notes

Chapter 1

1. Mark Rendell, *Interest rates need to keep rising to fight inflation, Tiff Macklem tells MPs,* report on appearance of Governor of the Bank of Canada to the House of Commons Finance Committee, Globe and Mail, November 23, 2022.
2. During the same period, our terms of trade improved by 2.9% compared with 0.9% in the U.S. Large improvements in the second quarter were partly reversed in the third quarter.
3. The Fall Economic Statement 2022 projects annual income tax revenue gains of approximately $27.7 billion per year on average over the forecast horizon, compared with estimates in the Budget earlier in the year.
4. See U.S. Energy Information Administration, *This Week in Petroleum,* October 19, 2022: Few drilled but uncompleted wells and limited natural gas takeaway capacity may limit crude oil production growth. eia.gov/petroleum/weekly/archive/2022/221019/includes/analysis_print.php
5. See David Macaulay, Greg Johnson and Brendan Sigalet, *Canadian Investment Tax Credits for Clean Technologies and Clean Hydrogen Announced in 2022 Fall Economic Statement,* Bennett Jones blog, November 15, 2022. bennettjones.com/Blogs-Section/Canadian-Investment-Tax-Credits-for-Clean-Technologies-and-Clean-Hydrogen-Announced

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2. International Monetary Fund, *World Economic Outlook,* October 2022, imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlook-october-2022
3. International Monetary Fund, *Global Financial Stability Report,* October 2022, imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022
4. World Trade Organization, *Trade growth to slow sharply in 2023 as global economy faces strong headwinds,* Press/909 International Trade Statistics, October 5, 2022, wto.org/english/news_e/pres22_e/pr909_e.htm
5. The WTO references a global manufacturing Purchasing Managers' Index (PMI) developed by J.P. Morgan for which values greater than 50 indicate expansion, and values less than 50 denote contraction. "The headline PMI index fell to a 26-month low of 50.3 in August, just above the threshold value of 50 separating expansion from contraction. Meanwhile, the sub-index representing new export orders fell to 47.0, signalling contraction."
6. Peterson Institute for International Economics, *Four years into the trade war, are the US and China decoupling?,* October 20, 2022, piie.com/blogs/realtime-economics/four-years-trade-war-are-us-and-china-decoupling
7. For Canada, the lockdowns in China and the tense political and economic relationship appears to have affected mostly our exports. In the first half of this year, in value terms, exports to China fell by close to 15% compared to the same period last year, while exports to other countries rose by close to 30% (admittedly, reflecting higher commodity prices). Meanwhile, imports from China grew by roughly 19%, in line with growth in Canadian imports from all countries. See Karel Brandenbarg, *Canada-China Trade: Q2 2022,* University of Alberta, September 2022, ualberta.ca/china-institute/research/analysis-briefs/2022/2022-q2.html
8. Remarks by the Deputy Prime Minister at the Brookings Institution in Washington, D.C., October 11, 2022, deputypm.canada.ca/en/news/speeches/2022/10/11/remarks-deputy-prime-minister-brookings-institution-washington-dc
9. Canada' Indo-Pacific Strategy, international.gc.ca/transparency-transparence/indo-pacific-indo-pacifique/index.aspx?lang=eng#a3_2

Chapter 3

1. Net borrowing, presented here on a national accounts basis for all levels of government, corresponds to the budget deficit plus non-financial capital investment net of consumption of fixed capital (which is already included as an expenditure in the budget deficit).

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1. Statistics Canada, *Labour Force Survey, November 2022.* www150.statcan.gc.ca/n1/daily-quotidien/221202/dq221202a-eng.htm
2. Statistics Canada, *Payroll employment, earnings and hours, and job vacancies, September 2022,* The Daily, November 24, 2022. www150.statcan.gc.ca/n1/daily-quotidien/221124/dq221124a-eng.htm
3. Bank of Canada, *Business Outlook Survey, Third Quarter of 2022,* bankofcanada.ca/2022/10/business-outlook-survey-third-quarter-of-2022/
4. As per Labour Force Survey, November 2022.
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6. See Immigration, Refugees and Citizenship Canada, *An Immigration Plan to Grow the Economy,* News release, November 1, 2022, canada.ca/en/immigration-refugees-citizenship/news/2022/11/an-immigration-plan-to-grow-the-economy.html
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2. Princeton University, *Net Zero America, Final Report Summary, Potential Pathways, Infrastructure and Impacts,* October 2021, netzeroamerica.princeton.edu/the-report
3. Canadian Climate Institute, *The Big Switch, Powering Canada's Net Zero Future,* May 2022, climateinstitute.ca/reports/big-switch/
4. RBC Economics and Thought Leadership, *The $2 Trillion Transition: Canada's Road to Net Zero,* October 2021, thoughtleadership.rbc.com/the-2-trillion-transition/
5. International Energy Agency, Ibid.
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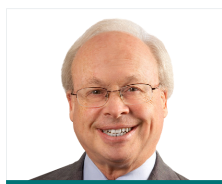

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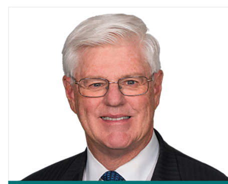

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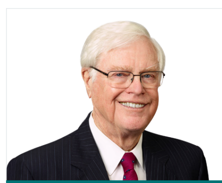

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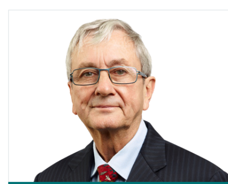

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